CALIFORNIA
OIL WORLD

PUBLISHED TWICE A MONTH
FOR TIMELY, COMPLETE
CALIFORNIA OIL NEWS COVERAGE

PETROLEUM PUBLISHERS, INC.
MEMBER AUDIT BUREAU OF CIRCULATIONS
W. C. MONROE—President and Editor
LARRY O. MILLER, Advertising Manager

706 SO. VALENCIA ST.
LOS ANGELES 14, CALIFORNIA
KINZIE MILLER—Vice President

SECOND ISSUE
• JULY, 1947
VOL. 40 • NO. 14
WHOLE NO. 1732

California Oil World is published twice a month at 706 So. Valencia St., Los Angeles 14, California. Entered as Second-Class Matter, April 29th, 1944, at the post office at Los Angeles, California, under the Act of March 3, 1879. Subscription price $1 per year in U. S. and possessions, $2 in foreign countries, including Canada. Member of the Audit Bureau of Circulations.

July 31st, 1947
Telephone FAirfax 6218

Washington Highlights

Investigation by a special Federal grand jury into boosts in gasoline prices in the West for evidence of monopolistic practices has been postponed until next September.

Seeking ways and means of speeding up the inquiry, William Dixon, chief of the West Coast area for the anti-trust division of the Justice Department, is here for official confabulations.

The 23-member inquisitorial body would be needed for an inquiry extending for months and the shortage of clerical personnel was seen by Dixon as delaying impanelment until September, or even longer.

As was expected, the House Merchant Marine committee has endorsed a resolution barring the export of oil products to foreign countries, unless the Commerce Secretary certifies that the shipments will in nowise impair either national defense or civilian supplies.

Sponsored by Representative Weichel (Republican), Ohio, the measure would cover gasoline, Deisel oil, bunker oil and lubricating oil. The Congressman, committee chairman, has been holding public hearings on shipments of gasoline and other products of petroleum overseas, particularly to Russia.

The resolution would be in effect until March, 31, 1948.

Any lack of gasoline in the Midwest is analyzed by Representative Ellsworth (Republican), Oregon, as resulting from shortage of oil distributing machinery and not by a shortage of petroleum. He is a member of the House Interstate and Foreign Commerce committee, which has been delving into the gasoline supply of the country. His group is planning to inquire why the needed steel for such machinery is in short supply.

Russia may turn out to have greater petroleum reserves than any other section of the world.

James P. Duce, vice president of the American Arabian Oil Co. made this statement before Congress in predicting that American oil consumption will continue to rise. It was his considerate opinion that United States will need all the oil the country produces now and in the future, supplemented by what can be brought in from ouside sources.

The Federal Government and the California Lands Commission have reached an agreement whereby California will continue to collect tidelands revenue during the interim while Congress decides whether to assume control of the rich offshore lands or give quitclaim title to the state. Money collected, however, must be impounded and cannot be used until Congress reaches a decision.

Papers signed by Federal Justice Department officials and California Attorney General Fred N. Howser also provide that such inland waters as Los Angeles, San Diego and San Francisco harbors are exempt from the decision of the Supreme Court turning the tidelands over to the Federal Government. These waters, therefore, remain under control of the state.

Talks between the State Department and Russia have ended on the matter pertaining to removal of American oil equipment from Romania by Soviet military forces. The breakdown in negotiations prompted the State Department to dispatch a formal protest to Russia.

The equipment in question is owned by Romano-Americana, the Romanian subsidiary of New Jersey Standard. Equipment taken from the oil company's property was valued at more than $1,000,000 at the time it was moved elsewhere.

The decision to terminate American participation in the joint United States-Russia oil commission was made by the State Department when it became obvious that there was no hope of obtaining any cooperation from the Soviet members in carrying out responsibilities of the commission.

Russell B. Brown, general counsel here for the Independent Petroleum Association of America, will be one of the principal speakers at the meeting of the Interstate Oil Compact Commission in Great Falls, Mont., August 11-13. Walter S. Hallanan, chairman of the National Petroleum Council, also will be a featured speaker.

Congress by joint resolution has extended the Interstate Oil Compact for four years from September 1, 1947. The measure has been signed by the President.

The economics of TCC... AS APPLIED TO 16 REFINERIES

Here are 16 refineries, located in 9 states and varying in crude capacity from 3,000 BPD to 25,000 BPD. Houdry engineers analyzed the over-all operations of each of these refineries and projected the addition to it of T C C cracking.

The true measure of the earning power of T C C equipment is reflected in the low differential between the by-product cost of gasoline and the cost of crude. The resulting increase in earnings makes it possible for any of these refiners to retire T C C's low capital cost within a relatively short period of time.

Ask Houdry to demonstrate the profits from T C C installation in your refinery.

SUMMARY OF ECONOMICS FOR VARIOUS REFINERY PROJECTS

Refinery Analysis No.	Crude Capacity BPCD	Gasoline BPCD	Distillate Fuels BPCD	Residual Fuel BPCD	ASTM Octane No.	TEL Ccs/Gal.	Crude Cost ¢/Gal.	By-Product Cost of Gasoline ¢/Gal.	Differential ¢/Gal.	Payout In Years
1	5,000	2,893	1,185	688	83.0	1.9	3.8	4.6	0.8	1.4
2	5,000	2,848	600	1,428	83.5	1.3	3.0	5.0	2.0	2.2
3	5,000	3,281	1,239	286	77.5	1.7	4.2	5.1	0.9	3.5
4	3,000	1,206	870	914	79.0	1.3	4.6	4.9	0.3	2.3
5	6,000	3,673	1,080	1,036	77.5	0.7	3.2	4.2	1.0	3.7
6	4,000	2,842	320	604	79.0	0.7	3.2	4.7	1.5	3.6
7	6,000	3,992	.....	1,566	82.5	0.9	3.0	5.1	2.1	2.9
8	4,000	2,610	400	753	78.0	0.5	3.1	4.6	1.5	2.9
9	12,000	7,787	1,800	1,602	81.0	1.5	2.8	4.0	1.2	1.1
10	5,330	3,812	.....	1,032	80.5	0.5	2.9	4.5	1.6	3.3
11	22,500	15,562	2,250	3,004	80.0	0.6	3.9	5.1	1.2	2.3
12	12,000	5,969	1,025	4,612	82.0	1.1	2.5	3.6	1.1	2.5
13	10,000	5,110	3,963	574	78.0	0.5	3.5	3.9	0.4	1.8
14	3,500	1,764	525	1,069	80.0	1.1	3.1	4.7	1.6	2.2
15	9,000	4,663	2,375	1,662	76.0	0.6	4.6	5.1	0.5	2.2
16	6,750	4,473	1,991	783	81.5	1.5	3.9	4.7	0.8	1.7

HOUDRY PROCESS CORPORATION
25 Broad Street, New York 4, N. Y.

HOUDRY CATALYTIC PROCESSES

Oil Men Are Gregarious

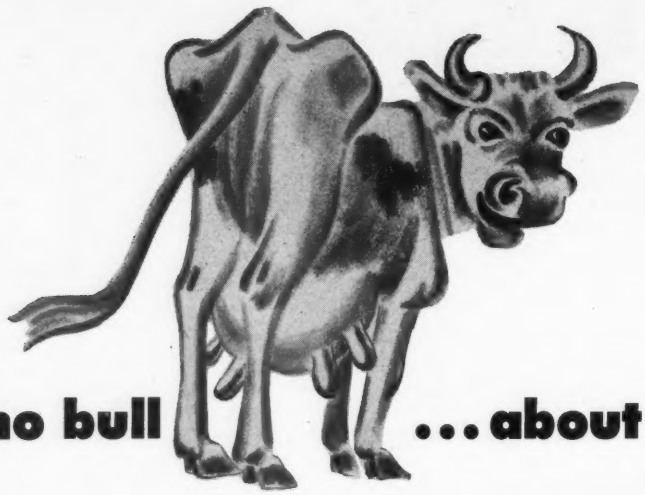
The genus **homo petroleumensis** is instinctively a herding animal. With consummate unconcern he assembles in clots, coteries, convocations and congregations, and invariably wherever two or more oil men foregather, regardless of its initial purpose, the caucus is almost certain to wind up in the formation of a new club. The petroleum industry has more associations and societies at the present time than had the late lamented democratic regime at the peak of its alphabetic madness. Just to name a few, there are the API, AIME, AAPG, CNGA, NNGA, IPAA, IOPA, OPA, SEPM, SEG, NPC, NAODC, PPP, PAC, WOGA, SMOGA, SJVPA, and several hundred more, including such purely social institutions as the Nomads, Wildcats, Nineteeners, Fishtailers, and the Dissolute and Debauched Order of Petroleum Pen Pushers.

About a year ago, an ambitious young petroleum engineer bet someone a considerable sheaf of lettuce that he could get strong industry support for a movement to organize in one single oil organization, all the oil men in California who were not already members of an oil organization. The deal flopped miserably because actually there were not any unaffiliated oil men, and when last seen, the young petroleum engineer was wearing a wistful smile, a badly corrugated forehead, and a wide mourning band — in memory of a lost bankroll. On the other hand, it is quite true that a chronic petroleum club joiner in a moment of madness wore all his identifying lapel buttons at the same time. This tipped him forward at such a pronounced angle that he sustained a nasty curvature of the spine, and now looks for all the world like the tubing in a directional well.

All the foregoing explanatory material is preliminary to some startling disclosures about one of the industry's most obscure and unique associations—an exclusive bonding of petrolic personnel, known as the Sons of May First. Here is an institution that was never formed. It just evolved into being through the years like a wrinkle or an oak tree or something. It was thuswise, if rumor has it right, and it seldom does: Every oil man is familiar with the fact that in 1929 the petroleum industry suffered severely from overproduction of crude oil and under-production of consumers. But few are aware that long years before 1929, in 1921 to be exact, we were already suffering another kind of over-production — an over-production of fishermen.

One by one these Waltonian disciples would sneak off to the mountains with high boots, baskets, and all the weird paraphernalia of their kind, and on the morning of May

Front Row: Lew Smith, "Tut" Tuttle, Hugh Glen, Bill Moeller, Oliver Spradling.
Middle Row: Bobbie Burns, Martin Newell, Arch MacDonald, Holly Hayter, Jim MacDonald.
Top Row: Jim Barr, "Teck" Tecklenborg, Harold Howard and Jim Simpson.



This is no bull ...about the ads

We've run on top-notch SERVICE

So when you're in trouble

We'll come on the double

Your problems won't unnerveus

We fix all types of oil field production equipment

Waldrip-Pacific

A name to remember in the oil fields

WALDRIP ENGINEERING COMPANY

Main Office and Plant—11810 Center Street, Hollydale, California—
Telephones: NEvada 61142 and MEtcalf 31161.

San Joaquin Valley Division—30th and M Sts., Bakersfield, Calif.
Telephones: 88564 and 88565.

CALL FOR THE WALDRIP "LITTLE RED WAGON"

WALDRIP PRODUCTS—Self-propelled Drilling and Servicing Rigs • Trailer Mounted Drilling and Servicing Rigs • Portable Drilling Masts • Pumping Units • Crown and Traveling Blocks • Underreamers

first, there they would be sitting on the banks of lakes, streams, and even just damp places, trying to decoy sundry bashful trout into their nice comfortable fishing baskets, with artificial flies, spinners, and other tempting but quite indigestible morsels. Occasionally, more by accident than design, a number of these piscatorial oil men would find themselves sitting alongside of each other, and they would discuss the price of crude; the number of sacks of cement required to fill an annulus of those or these dimensions; the shortage of Mail Pouch chewing tobacco, and similarly important matters in which they had common concern. Indeed, they found it so much more interesting to be talking with other well informed oil men, than to be just sitting there alone not catching fish, that at the end of such seances, they usually parted with a friendly, "Well, pal, I hope I see you next May first."

In this fashion the Sons of May First aforementioned sprouted out of a meeting of enthusiastic rod and reelers who had hied into the San Jacinto Mountains to fish the wild, rushing South Fork, in **anno domine** 1921. They had trundled to this sylvan rendezvous in battered jalopies, over rough, hazardous mountain trails. They slept on the ground at night, and in the morning cooked breakfast on an improvised grid, balanced precariously on a couple of rocks. They brewed coffee in the great outdoors, sipped it, and declared it nectar from the gods. The entire experience was so invigorating and healthful that they decided to make the trip an annual event. To bolster his decision, it might be mentioned that in those far off days, automobile traffic hadn't begun to jell yet. A car of any sort was a luxury, and secluded fishing spots were not so easily reached. There was no mob to charge in come May first, like women assaulting a bargain counter. In consequence, fish in the streams were plentiful, and occasionally attained their full growth before they were caught—a mountain fish that reaches maturity in California today is a museum piece.

But progress eventually came to the mountains, and these rugged adventurers bought properties, laid out

Elwood Jones
"The Big Bahoo"

permanent camps, and built cabins —real ones, with doors and windows —alongside of each other. Three of the leading owners of the properties were Arch MacDonald, Ray Tecklenborg, and Elwood Jones, and the area in which they were located, and in which the Sons of May First were thereafter wont to disport, became known as Macteckelwood. In due time, the jolting mountain ride was replaced by comfortable travel over smooth, paved roads. The lodges similarly modernized until they were equipped with electric lights, inside plumbing, bath tubs, and even boasted city beds with soft downy mattresses, on which the tired business men might rest their weary bones. Another sign of the new day was that chefs and cookees were transported to the mountain hideout to fry juicy steaks while the members contested for Calcutta stakes in nine languid holes of divot lofting.

In late years, there have been even more changes—the strenuous sports have been largely abandoned; shining limousines shuttle back and forth between Idylwild and the lowlands, carrying the Sons of May First in luxurious ease. Everything, in fact, has changed for the better but the fish. They don't grow nearly so large, and they have acquired a devilish cunning. So, the delegates, grown older and less energetic, now derive their pleasure from such innocent pursuits as gin rummy, bridge, poker, and other sitting-down indoor sports. They find great joy in the exchange of reminiscence about the days when they were young and daring, and they even compose ballads after the manner of the old troubadours, which are sung in lusty chorus to strumming of guitars, banjos, ukeleles and other symphonic type instruments.

There is but one officer in this august association. His imposing title, "The Big Bahoo," is equivalent to a dictatorship, since in his own domain no one dare say the Bahoo nay, and his every gesture is a command. Occupying this statospheric elevation is Elwood Jones, district manager of Stockham Pipe and Fitting Company, a citizen of fine repute, whose mountain cabin is one of the popular gathering places of the members. He was first attracted to the mountains, we are told, by a simple desire to practice his favorite diversion—fishing, and in the intervening years he has had ample opportunity to indulge his hobby to the limit. He is reputed to be a stern but just ruler, and is a recognized authority on three important subjects, to wit: (1), the habits and haunts of the common mountain trout; (2), the habits and haunts of the uncommon mountain trout, and last but not least (3), the art of excavation with an 8 iron. The Big Bahoo holds his majestic sway, serene and unmolested, and no one has yet thought it prudent to challenge his right to govern.

Among those who first whipped the water of the North and South Forks with the Bahoo were such noted petroleum people as Arch MacDonald, the top half of that illustrious enterprise, MacDonald and Burns, and the proprietor of another cabin that is much used by his fellow members. Arch would rather play golf than—well, than what he plays when he gets on a golf course, but like his brother Jim, district manager of Chain Belt Company, and also historian of the Sons of May First, he enjoys the game even when he is slicing like an apprentice butcher. It is quite popularly rumored that the MacDonalds are of Scotch origin, and when unduly

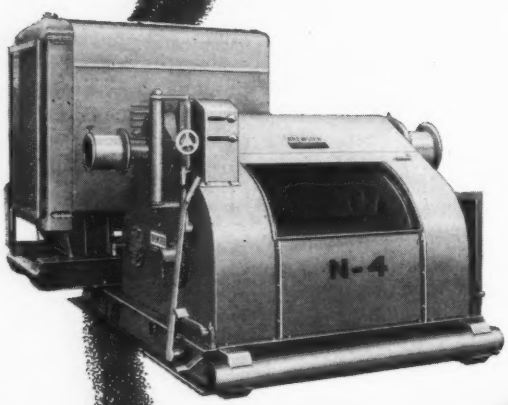
FITS LIKE A GLOVE

BREWSTER MATCHED DRILLING EQUIPMENT

Correct fit is as important in drilling equipment as it is in gloves—the entire combination must fit the job.

FOR DRILLING TO 4500'

this Brewster Matched Drilling Equipment will fit your needs—better, more economically. Brewster also builds Matched Equipment for drilling to 7500' or 10,000'. Write for complete information now!

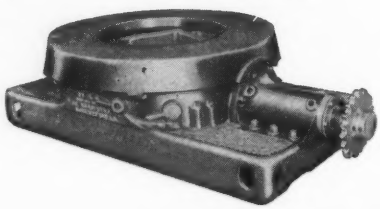


N-4 DRAWWORKS

Features the [illegible]-saving fluid drive torque converter whi[illegible]eguards power unit, reduces wear of [illegible]quipment. Air-operated controls. Centrali[illegible]ontrol panel. Unitized on single skid.

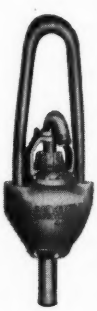
R-30 BLOCK

90-ton capacity, yet only 53½" long—ideal in small derricks. Streamlined to prevent hanging up. Concave top to protect crown block sheaves.



OB-18 OILBATH ROTARY

Full 18" table opening. Smooth, effortless motion assured by table set on angular contact ball bearings operating in oil.



4-S SWIVEL

120-ton capacity. Streamlined, no dangerous projections. Oil-bath. Tough, well-built of finest steels.

EXPORT SALES:

BAIRD SUPPLY CO., Inc.
420 Lexington Avenue
New York 17, New York

BREWSTER
Drilling Equipment

THE BREWSTER CO., INC.
SHREVEPORT, LOUISIANA, U. S. A.
For Over 30 Years Manufacturers of Crown Blocks, Traveling Blocks, Oilbath Swivels, Oilbath Rotaries, Unitized Drawworks, Winches.

excited will break out in a series of burrs, or take to the bagpipes for relief. Arch, incidentally, was the winner of the last semi-annual Calcutta tournament sponsored by the Nineteeners, of which he is also a member.

Other adherents of Walton who early laid the foundation of Macteckelwood and all that it means, were Jim Simpson of Kramer and Kramer, an erudite, scholarly sort of lad, who hails from south of the Tweed, and intrigues his brothers aplenty with the quiet smooth lingo of the English gentlefolk. Then there are Jim Barr, district manager of Pressed Steel Tank Company, as enthusiastic an angler as ever put oatmeal in a bottle and fished for minnows; Oliver Spradling of Central Tube Company, an expert on the subject of flying discs, particularly the ones that fly during a hot game of penny ante; Elmer Jones, owner of Pacific Southwest Pipe Company, who once played a mean game of golf, but is now content to exercise himself by dropping a lackadaisical line into Strawberry Creek, and sitting there hoping that no fish will be mean enough to bother him; Ray Tecklenborg, owner of his own business, and host of the third Idylwild cabin in which the Sons foregather, is conceded to be the outstanding fisherman of the entire group, which in such an assembly of experts is really saying something. They say that when he approaches the edge of the stream with his equipment, the older fish simply swim to the bank and give themselves up, realizing the futility of attempting to escape. Winding up this trail blazing group is Holly Hayter, Tide Water Associated purchasing whiz, and a lad of unblemished record in both oil and golf circles. It is confidently predicted by one of our better predictors that if Holly's golf continues in the same direction, one of these days he may have an oil well on his hands.

After the above stalwarts had been thoroughly inoculated and Macteckelwood had been well broken in, the membership of the organization was enlarged by the addition of Lew Smith, now twiddling an indolent toe in Bakersfield, where, released from his old business worries, he is fashioning some new worries that keep him more occupied than an Igorote in woolen underwear; Charley Schneider, the eminent San Franciscan, who in his spare moments practices the horticultural arts so that he can get worms to drown in Strawberry Creek come May first; Bill Ackerman, another San Franciscan, sometimes known as Baldy because of a slight scarcity of hirsute. Bill is a rare conversationalist, which doesn't at all mean that he rarely converses.

Then there is Bobby Burns, the other half of that MacDonald and Burns institution, and not to be confused with the famous Scotch poet of the same name. Bobby is immediately distinguished from his illustrious ancestor by the fact that the latter has no candid camera strung around his neck, while Bobby is usually equipped with more photographic gadgets than the Eastman Kodak Company; Charley Napier does a very similar act to that of Charley Schneider. He uses one hobby just to get worms so that he can indulge in the other. However, he is not addicted to gardening but acquires his bait by striking low with his niblick. Incidentally, it should be mentioned here that the late Joe Weston and the late Jim Jones came in with this group, all of whom were employees of, or had at one time worked for, Tide Water Associated Oil Company.

The latest acquisitions include Hugh Glen, the Emsco prexy, and a guitarist, if the accompanying photo means anything. An outstanding characteristic of this member, as related by his brothers in May Firstdom, is a boundless energy that keeps him going long after everybody else is exhausted. It seems to be an accepted bit of basic data in the order that when Hugh Glen has gone to bed, the party is definitely and completely over; Harold Howard of Howard Supply Company is a noted duck hunter and sand blaster. His most unusual golf shot is a drop shot in which he scoops the sand out from under the ball and drops it a foot; Bill Beck, a flying horseman, who also attacks the good earth on the slightest provocation is another of the neophytes. He wishes his stocks were as high above par as his golf game. So also does Joe Aderhold, Allied Supply Company, a Wilshire Club member, and a wicked mashie wielder, who says that any man who doesn't play golf doesn't know what he is missing. Which is true, but then any man who does play golf doesn't know why he is missing, so maybe it's six of one and half a dozen of the other.

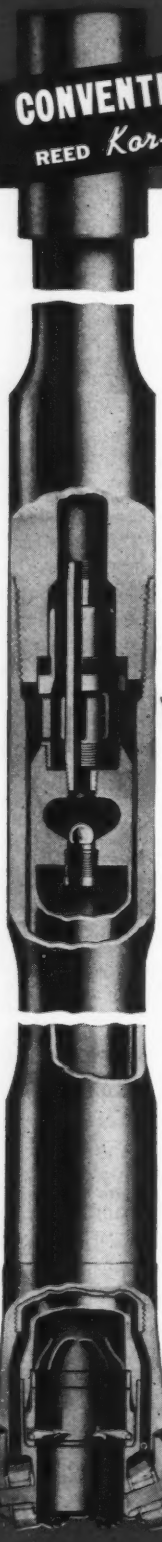
To continue, however, with the list of newest members, there is Zeb Terry, leasing contractor, and ex-big league shortstop, who in his younger days would never let anybody get to first base. He points out that baseball players are now being paid on a sliding scale to avoid union trouble. Then there is Bill Moeller, Southern California Gas Company exec, long time director and exprexy of CNGA. Bill is a grand fellow, but addicted to the ukelele which he plays somewhat like a musical instrument, and out of which he gets a series of soft plunks somewhat like music—much to his own surprise. Finally, there is Les Wiggins, ex-Youngstowner, now proprietor of his own transportation company, and a mountain trailer of wide experience if we are to believe all the truck we hear.

There was never a time when it was more urgent for business men to find some means of occasional diversion or relaxation, and there never was a group that found it in more ideal surroundings, in more congenial company, and in more copious measure, than the Sons of May First. For 26 years the members of this little clan have allowed nothing to interfere with that unwritten date on the opening of fishing season, and the ballad singing and tale telling about the big ones that got away and the big ones that didn't are a sort of safety valve that keeps the pressure down, and permits these adventurers in good living to percolate along at a comfortable gait. There is no question that mountain air — the finest of medicines—gives to all the meetings and all the members of the Sons of May First, an extra red corpuscle or two, a tang and a zip, that may not be boisterously expressed in outward exhuberance, but is of tangible benefit nevertheless.

FOR BETTER *Coring*

CONVENTIONAL
REED *Kor-King*

Wire Line
REED "BR"



The REED *Kor-King*
CONVENTIONAL CORE DRILL

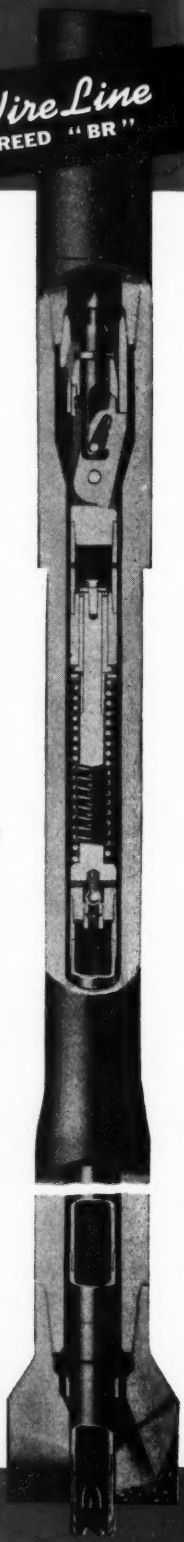
The Reed Kor-King Core Drill is simple in design, strong in construction and easy to operate. The new hard formation cutter heads have a forged steel crown with integral cutter bearing journals. This construction gives unusually strong support for the cutters and longer life for the cutter head.

The oil resistant bearing, shown below, is replaceable at the rig and will help keep your core barrel out of the repair shop.

The REED "BR" *Wire Line*
CORING - DRILLING OUTFIT

The Reed "BR" Wire Line coring-drilling outfit has two distinct advantages: The Protrusion Regulator Spring permits the core cutter head to retract within the drilling bit in the hard formations; and permits the core cutter head to core ahead in the soft formations.

The replaceable core cutter heads assure maximum cutting action at all times, while coring.



Reed ROLLER BIT CO.

HOUSTON 1, TEXAS

NEW YORK
1836 R.C.A. Building,
New York 20, N. Y., U.S.A.

ARGENTINA
Santiago Del Estero 286
Buenos Aires, Argentina

LONDON
59 Wool Exchange, Coleman St.,
London E. C. 2, England

Refinery Planning

By Davis Read
Universal Oil Products Company
Chicago, Illinois

The importance of sound planning for the expansion of refining facilities to meet the rising demand for high quality petroleum products can not be over-emphasized. This is especially true for the smaller refiner who is faced with the problem of modernizing equipment which is now earning reasonable returns on the original investment, but will not satisfy future market demands for higher octane number. Frequently there is a tendency to overlook certain factors and adopt a somewhat short range point of view which may satisfactorily solve an immediate problem at low capital cost, but fails to provide a sound basis for future operations. The purpose of this paper is to review briefly the wartime developments in petroleum refining which are now widely used to produce improved motor fuels and to discuss several factors which should be considered in future planning. In discussing these developments it is of interest to review first the situation in refineries before the war.

Situation in Refineries in 1939

The average smaller refinery in 1939 contained topping, thermal cracking and, in some cases, thermal reforming and polymerization facilities. Polymerization was the first of the catalytic processes used to produce motor fuel and approximately fifty of these units were placed in operation during 1939. Both catalytic cracking and hydroforming were in large scale commercial operation at that time. The catalytic alkylation of paraffin hydrocarbons with olefins for the production of aviation gasoline was also in commercial use. The catalytic dehydrogenation of butanes to butylenes had passed the pilot plant stage of development and three commercial units were under construction. The butylenes were to be catalytically polymerized into iso-octenes and catalytically hydrogenated to iso-octanes.

All of these catalytic processes produced gasoline of much higher quality than that obtainable with conventional thermal equipment but, with the exception of polymerization, all were too costly to be used by the smaller refiner. These factors did not greatly affect the refiner's position at that time, however, because thermal cracking and polymerization could usually be easily justified on the basis of increased gasoline yield from crude and reduced tetraethyl lead costs. Average motor method octane numbers of premium and regular grade gasolines were approximately 78 and 71 (7), respectively.

Developments During 1939-1945

Numerous papers (3,5,6,) have been published recently describing the important technological developments in petroleum refining during the war and the trends which may be expected in the future. Hence, only a brief review of these developments is needed for the purposes of this paper.

The most outstanding change in refining processes was, of course, the tremendous increase in the use of the catalytic cracking process. The total rated capacity of catalytic cracking plants in 1945 was about 1,000,000 barrels per day(2), or approximately 40% of the capacity of thermal units (1).

Catalytic polymerization units which had been designed primarily to produce motor gasoline were operated at lower than normal temperature during the war on butane-butylene fractions to produce codimer which was hydrogenated to produce a saturated product of 92 octane number for use in aviation fuels. This was one of the few ways in which a smaller refiner could contribute directly to the manufacture of 100 octane aviation gasoline. At the end of hostilities, most of these units returned to operation on C_3-C_4

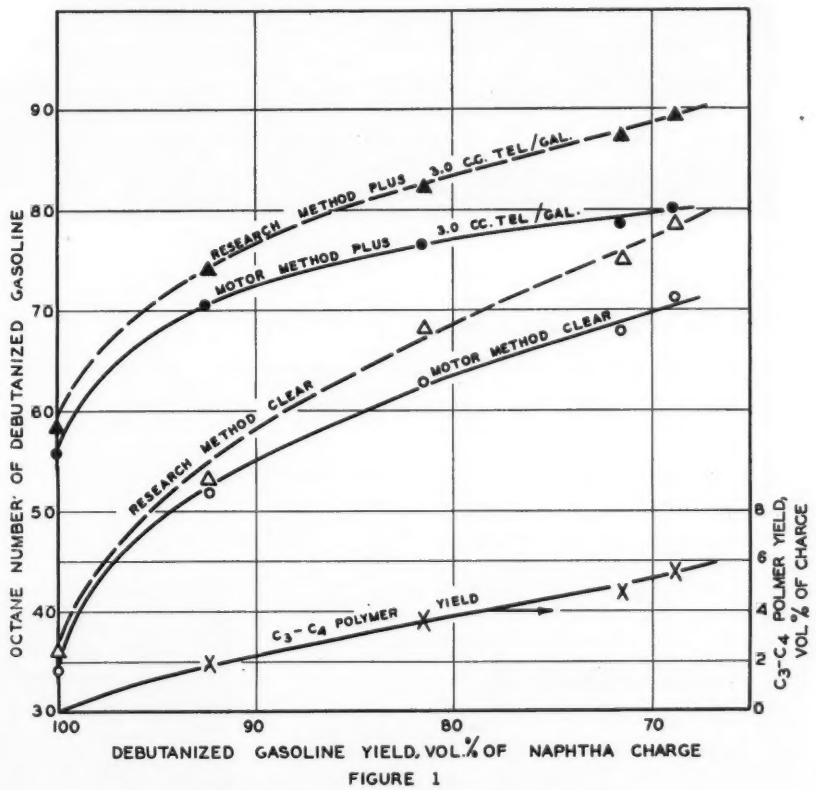
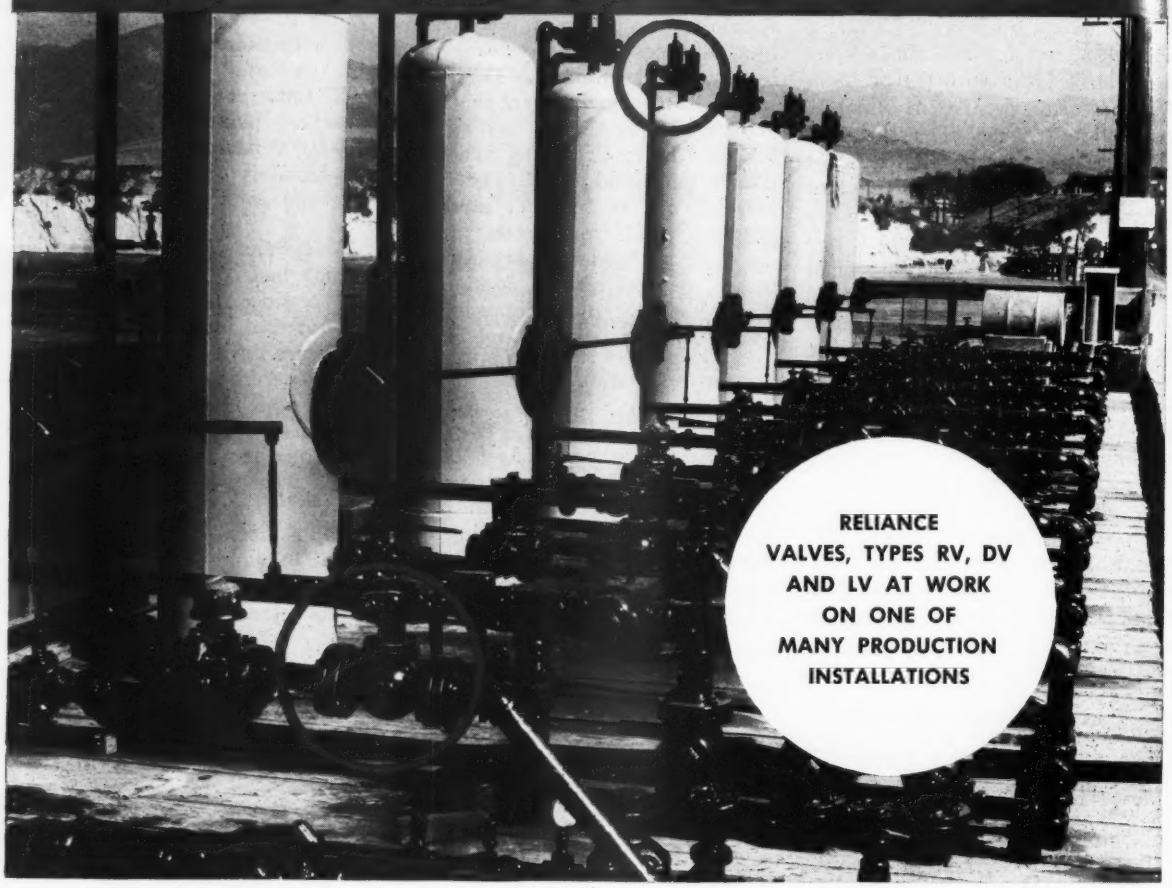


FIGURE 1

THERMALLY REFORMING KANSAS STRAIGHT RUN NAPHTHA
34 OCTANE, 250-400°F. BOILING RANGE, 0.03% SULFUR.

OIL PRODUCERS CHOOSE *RELIANCE* FOR DEPENDABLE SERVICE



In every major oil field, Reliance Valves are on the job day and night, giving trouble-free, efficient service. Reliance offers THREE outstanding advantages:

(1) SAFETY . . . *by providing positive shut-off of normal or emergency pressures.*

(2) SATISFACTION . . . *by insuring sufficient capacity over working range of valves.*

(3) ECONOMY . . . *can be repaired or replaced in the field.*

Write for bulletin TODAY.

AMERICAN METERS

RELIANCE REGULATORS

RELIANCE REGULATOR CORPORATION
1500 MERIDIAN AVENUE, ALHAMBRA, CALIFORNIA

fractions at higher temperatures and greater throughputs to produce polymer gasoline.

The alkylate produced by alkylating isobutane with propylene, butylene or amylene was one of the principal components of 100 octane aviation gasoline. Isomerization processes for producing isobutane from normal butane were extensively installed and overcame the principal bottleneck in alkylate production by increasing the available quantity of the key raw material. The production of cumene by alkylating benzene with propylene accounted for about 23% of the increased production of 100 octane aviation fuel up to the end of 1943. Shortly thereafter aviation gasoline production was greatly increased by the new catalytic cracking and alkylation units placed in operation.

The dehydrogenation of butanes was employed in several refineries during the war to produce butylene for alkylation or butadiene for the manufacture of rubber.

Hydroforming, which was a prewar development, was found to be the most practical method of producing toluene for explosives, and its use was greatly increased.

Of all these catalytic processes which were used so extensively during the war, only catalytic cracking and polymerization appear to be economical for motor fuel manufacture in smaller refineries in the United States today.

Situation Today

Since the war and the relaxing of government controls, there has been a tremendous emphasis on the construction of new catalytic cracking and polymerization units. Since V-J Day approximately 430,000-barrels-per-day of new fluid catalytic cracking unit capacity (U.S. and foreign) has been built, or is now in the design or construction stages. The effect this increased capacity will have upon the octane number picture is naturally viewed with some apprehension by the smaller refiner who operates thermal cracking equipment. Some refiners are in a more fortunate octane number position than others in that they are processing crude which contains straight run gasoline of higher than average quality, and the amount of upgrading required to compete with catalytically cracked gasoline motor

TABLE 1
COMPARISON OF SENSITIVITIES OF GASOLINES PRODUCED FROM MID-CONTINENT CRUDE BY VARIOUS PROCESSES

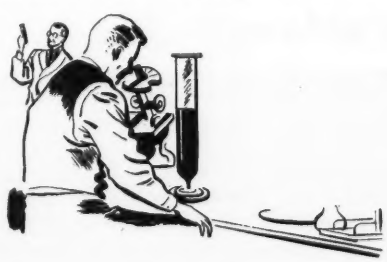
Gasoline	270 °F.E.P. Light St. Run	270-400 °F St. Run Naphtha	Thermally Cracked	Isoformed Thermally Cracked	Mild Thermally Reformed St. Run Naphtha	Fluid Catalytically Cracked
Gravity °API	71	50	58	57	54	59
Reid vapor pressure	12	1	4	4	4	5
End point °F.	270	400	400	400	400	400
Octane ratings						
Motor method clear	61	38	67	69	62	81
Motor method + 3.0 cc. TEL/gal.	81	61	76	79	76	86
Research method + 3.0 cc. TEL/gal.	81	61	85	87	82	98
Sensitivity (Research-Motor) with 3.0 cc. TEL/gal.	..	..	9	8	6	12

method octane numbers may not be too excessive. Others with straight-run gasoline of average quality may normally market a large part of the heavy naphtha as tractor distillate or solvents, and thus eliminate this low octane material from the high grade gasoline blends. In such cases thermal reforming, isoforming or catalytic desulfurization are possible methods of reaching the required motor method octane level with relatively low investment cost. A number of smaller refiners, however, may now find it necessary to consider expanding or replacing existing cracking facilities by the installation of catalytic cracking in order to meet their anticipated octane requirements.

Refining in the Future

Past trends in the octane rating of motor gasoline have indicated (7) that by 1950 premium and regular gasolines may have motor method octane ratings as high as 85 and 80 respectively. It is thought, therefore, that any change in refinery processing which does not provide the means of producing gasoline of this quality does not satisfactorily answer the refiner's problems. In addition to meeting these specifications, however, there are several other factors which should be included in planning for the future. These factors can be listed as follows:

1. Importance of research method octane as an indication of road performance,
2. Increased demand for distillate fuels,
3. Importance of long range viewpoint in selection of new processes,
4. Economies which can be effected in present operations without major processing changes.



Research Method Octane

The sensitivity (research method octane number minus motor method rating) of motor fuels is assuming increased importance. Some authorities (4) believe that the research method is a better indication of road performance, particularly under conditions of low speed knocking, than the motor method. Trends (7) have indicated that research method octanes of 95 and 88, corresponding to 85 motor method premium and 80 motor method housebrand, may be required by 1950.

As an indication of the improvement in research method octane and sensitivity to be expected by the installation of various processes in the average Mid-Continent refinery, the properties of various gasolines produced from low sulfur Mid-Continent crude are compared in Table 1. Note that the cracked and reformed gasolines are compared on a debutanized basis while the light straight run gasoline has a Reid vapor pressure of 12 pounds. In this comparison both the research method octane and the sensitivity of gasoline pro-

First Photo

McCULLOUGH'S "NEW BABY" *the* MAGNA-TECTOR

AN ELECTRONIC DEVICE WHICH TELLS *EXACTLY* WHERE PIPE IS STUCK!

CASE HISTORIES

Chosen not because they are exceptional, but because each was witnessed by a large number of engineers and superintendents.

6⅝" 26# casing, calculated to be free at 1500 feet, hole full of 79# mud. Magna-Tector indicated lowest free point at 1933 feet. Cut made at this point; pipe came free, saving 400 feet of pipe, and 400 feet of hole on the re-drill.

6⅝" 28# casing. Magna-Tector showed pipe stuck at 4,365 feet, free at 4,360 feet. Cut made at 4,360 feet; pipe came free.

6⅝" casing. Magna-Tector showed pipe stuck at 6,195 feet, free at 6,194 feet. As a check, cut was made a few feet below: pipe could not be pulled free. Second cut made at 6,190 feet (to miss a collar); pipe came free.

On November 6, 1946, the Magna-Tector was employed to test a string of 3½" drill-pipe. Found to be free at 10,680 feet, the pipe was cut off and readily removed from that point.

EVER SINCE we first mentioned this device—even before we'd named it—it's been kept busy on one job after another, and we've been kept busy answering questions about it.

Recently, it was run in one of the world's deepest wells, operating with complete success below 16,000 feet, under the most severe conditions of temperature and hydrostatic pressure ever encountered in an oil well.

Essentially, the Magna-Tector consists of two electromagnets connected by a telescopic joint containing an electronic measuring device. Run in the well on conductor cable and energized from the surface, the magnets cling to the pipe wall. A strain is then put on the pipe; free pipe registers by stretch, stuck pipe by lack of stretch. A few tests quickly locate the exact point at which pipe is stuck, often within *one foot*, because the electronic instrument is so sensitive that it will record stretch as slight as a few thousandths of an inch per hundred feet . . . see the case histories on the left.

Magna-Tector users find *four* distinct savings in its use.
1. *Saves rig time.* 2. *Saves cutting,* because one cut is sufficient.
3. *Saves Pipe,* because you get all the pipe possible *in one piece.*
4. *Saves footage* on re-drill jobs.

Another **McCullough** *Exclusive Special Service*

25 SERVICE LOCATIONS

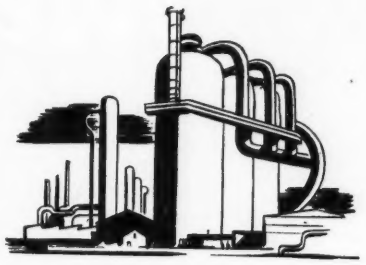
McCULLOUGH TOOL COMPANY: 5820 S. Alameda St., Los Angeles 11, Calif.
TEXAS: HOUSTON, ALICE, CORPUS CHRISTI, McALLEN, ODESSA, TYLER, VICTORIA, WICHITA FALLS
OKLAHOMA: OKLAHOMA CITY, GUYMON, HEALDTON MISSISSIPPI: LAUREL NEW MEXICO: HOBBS
CALIFORNIA: LOS ANGELES, AVENAL, BAKERSFIELD, SACRAMENTO, VENTURA, SANTA MARIA
LOUISIANA: HOUMA, LAKE CHARLES, NEW IBERIA, SHREVEPORT KANSAS: ULYSSES WYOMING: CASPER
EXPORT OFFICE: 30 Rockefeller Plaza, New York 20, N. Y.

duced by fluid catalytic cracking, even at the intermediate reactor temperature of 875°F at which the test was made, are somewhat higher than that produced by any of the other processes listed. It can be readily seen, therefore, that refiner choosing such relatively low cost processes as thermal reforming or isoforming as a temporary means of reaching higher motor method octane number will probably be low on research octane number without catalytic cracking.

Distillate Fuels

The trend toward greater demand for intermediate distillates will have a significant effect on the refiner's planning for new facilities. Last year the demand for diesel fuel, furnace oil and light gas oil increased approximately 5% over 1945 ([2]) and this trend is expected to continue. Data have been presented in the literature to show the great increase in distillate fuel yields which can be obtained when fluid catalytic cracking instead of thermal cracking is employed in a given refining scheme. This is due to at least one inherent difference between the two cracking processes. Thermal cracking is always accompanied by thermal polymerization which makes heavy residuum at the high pressures employed, whereas fluid catalytic cracking is a low pressure process in which the catalyst modifies the cracking reaction so that little polymerization takes place. The catalytic cracking process will therefore increase the flexibility of refinery operations over that now realized with thermal cracking, due to its greater ability to vary the proportions of gasoline and distillate fuels produced to meet seasonal demands for these products.

Recent data obtained on a commercial fluid catalytic cracking unit while processing a 23°API gravity heavy California vacuum gas oil are shown in Table 2. The unit was operated at a conversion of approximately 50% in order to produce relatively low boiling distillate fuel as well as high octane motor gasoline from the vacuum gas oil. Note that the light catalytic cycle stock produced represents 23.2% of the charge and has a 50% point of 542°F. as compared with a 50% point of 740°F. on the fresh feed. It is also interesting to note that the light and



heavy gasolines produced in this operation at a reactor temperature of 950°F. have sensitivities of 14 to 16 unleaded.

Importance of Long Range Viewpoint in Selection of New Processes

In a refinery containing crude distillation, thermal cracking, and polymerization facilities, a number of interim steps can be taken to improve over-all gasoline quality. As previously mentioned, the straight run gasoline can be reformed or desulfurized and the cracked gasoline can be isoformed to increase octane rating. It is apparent from process studies that catalytic cracking will ultimately be required to meet anticipated product specification however, the need for installing a new reforming, desulfurization, or isoforming process must be carefully analyzed.

One of the most important factors to be considered in this analysis is, of course, the ratio of the amount of low octane straight run gasoline which must be up-graded to the amount of available catalytic cracking stock. It is often found that the quantity and blending value of the catalytically cracked gasoline are sufficient to carry all of the available low octane number straight run naphtha in blends even when producing 85 octane premium and 80 octane housebrand gasoline. In borderline cases only a moderate increase in the octane rating of the straight run naphtha will be required to make the 85-80 grades after the future installation of catalytic cracking. This increase can usually be obtained by thermally reforming the heavy naphtha at mild conditions.

In the past, thermal reforming units have normally been operated to increase octane rating at conditions which result in gasoline yields of about 80%. Because of the accompanying rather high loss of gasoline production, some refiners have tended to discredit a consideration of this process in future planning. It

TABLE 2
FLUID CATALYTIC CRACKING
23° API HEAVY CALIFORNIA GAS OIL
COMMERCIAL RESULTS

Yields, volume % of charge	
Dry gas, cubic feet/bbl. charge	382
Propane-propylene cut	4.4
Butane-butylene cut	7.1
Light gasoline	17.2
Heavy gasoline	16.5
Light cycle oil	23.2
Heavy cycle oil	27.5

Properties of charge and products

	Charge Stock	Light Gasoline	Heavy Gasoline	Light Cycle Oil	Heavy Cycle Oil
Gravity °API	23.0	67.3	38.9	23.3	19.4
Aniline point °F.	160	...	...	100	150
%Sulphur	0.80	0.07	0.19	0.70	0.60
Flash point °F.	260	...	...	240	220
Conradson carbon, wt. %.	0.12	...	...	0.03	0.94
Octane numbers					
Motor method clear	...	79.2	79.6	...	...
Research method clear.	...	94.7	93.3	...	...
100 ml. distillation					
I.b.p. °F.	390	107	269	451	...
10%	600	128	286	492	...
50%	740	162	327	542	...
90%	860	220	389	622	...
E.p. °F.	...	259	438	679	...

For deep well drilling... this is THE RIG for me

"Looks like we have to go deeper and deeper to get oil these days, and I'm equipping myself to handle deep drilling. It takes a real rig to go down 12,000, 13,000, and perhaps 15,000 feet. The Wilson SUPER TITAN can do that and plenty more. It's equipped with four engines which means enough power to go to 20,000 feet! It's built to stand the gaff and strain of extra deep drilling. But most important of all, IT'S A WILSON . . . that name means a lot ot me! Wilson Rigs have always been tops."

Investigate now . . . with oil wells going w-a-y down, you are going to need the extra power and strength of a Wilson SUPER TITAN Rig.

RATED CAPACITY OF SUPER TITAN RIG

Model	With 3½" Drill Pipe	With 4½" Drill Pipe
Super Titan 56" Drum	17,500 ft.	14,000 ft.
Super Titan 66" Drum	20,000 ft.	16,000 ft.

POWER RIG & EQUIPMENT CO., INC.

PRE
SERVICE • • • • SALES
POWER RIG EQUIPMENT

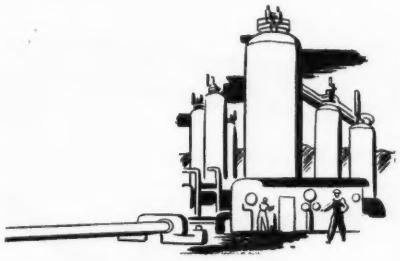
5141 Anaheim-Telegraph Road • Los Angeles 22, California

FORMERLY THE H & B SALES COMPANY, LTD.

Pacific Coast Representatives for Wilson Rigs & Winches

should be remembered, however, that the thermal reforming operation shows a greater incremental increase in octane rating per unit loss in gasoline yield at lower conversion levels. This effect is illustrated in Figure 1 which shows the yield octane number relationship obtained by thermally reforming a 34 octane number Mid-Continent straight run naphtha. The heavy straight run naphtha is usually the lowest octane number material used in motor fuel blends in the average Mid-Continent refinery. It is interesting to note that this naphtha can be thermally reformed to a motor method octane number of 49 clear and 68 with 3cc TEL/gal., at a yield of 95%, on a debutanized basis. While this operation in itself does not produce any 85 octane gasoline, it is quite effective in improving the octane number of the total refinery gasoline blends with little loss in total gasoline production. For example, a refiner processing 38°API Mid-Continent crude and producing light straight run gasoline, heavy naphtha, thermally cracked gasoline and polymer could increase the motor method octane number of the total gasoline blend 2-3 points by this procedure. The corresponding research method octane rating could be increased 3-4 points.

Pilot plant tests indicate that the catalytic reforming of low sulfur heavy Mid-Continent naphtha over the fixed bed clay type catalyst would show little or no advantage over mild thermal reforming from the standpoint of yield octane relationship, and it would have the disadvantage of being limited to operation at low conversion level unless sufficient regeneration capacity were built into the unit to handle the high coke production at high conversion. The less expensive thermal reforming operation, on the other hand, can be conducted at conversions corresponding to gasoline yields of 75 to 80% if the additional octane improvement is required and sufficient heater capacity is available. When considering the installation of a new reforming unit, the available reforming capacity both before and after conversion of the thermal cracking unit to catalytic cracking should be taken into consideration. From the long range viewpoint it would obviously not be feasible to install



new thermal or catalytic reforming capacity which could not be justified when catalytic cracking is required.

When high sulfur crudes are processed the possibility of desulfurizing the full boiling straight run gasoline over a fixed bed of hot clay to improve octane number and lead susceptibility suggests itself. The economics of this operation should be compared, however, with that of thermally reforming only the heavy straight run naphtha at mild conditions. The amount of desulfurization and the increase in lead susceptibility obtained by this reforming operation are often overlooked in future planning. Table 3 shows the results of a pilot plant test on a 48 octane number West Texas naphtha containing 0.27% total sulfur. A yield of 94.4% of gasoline having a clear motor method octane rating of 64.5 after doctor sweetening was obtained at the mild operating conditions employed. The gases produced can be polymerized to yield an additional 2.3% of polymer gasoline based on the charge if refinery butanes are available for vapor pressure. It is significant to note that this operation resulted in about 55% desulfurization of the naphtha with an increase of 16 points in the leaded octane rating at the 3.0cc/gal. level. While catalytic desulfurization of this naphtha would effect a slightly greater sulfur removal with essentially no loss in gasoline yield, the leaded octane improvement would only be 6 to 8 points at the 3.0cc/gal. level.

Perhaps a more important consideration in this comparison, however, is that fact that a refiner who converts thermal cracking equipment to catalytic cracking will probably have equipment available in which this reforming operation can be carried out, and the installation of a new catalytic desulfurization unit might not be required.

In planning for the future, therefore, the economics of various new installations which might be added to process the straight run gasoline must be considered in the light of subsequent changes which may be made in the processing scheme. It might be more advantageous to ins-

TABLE 3
MILD THERMAL REFORMING
WEST TEXAS NAPHTHA

Yields			
Naphtha charge	100.0		
Reformed gasoline (9.4 lb. R.v.p.) vol. %	94.4		
Fractionator bottoms	2.1		
Gas, cubic feet/bbl.of charge	164		
Operating conditions			
Pressure, p.s.i.g.	500		
Transfer temperature, °F.	960		
Properties of products	Charge	Reformed Gasoline	Fractionator Bottoms
Gravity °API	49.9	52.7	29.0
Total sulfur, wt. %	0.27	0.12	...
Mercaptan sulfur, wt. %	0.08	0.04	...
Reid vapor pressure, lb.	...	8.5	...
Octane number, motor method*			
Clear	47.5	64.5	...
Plus 1.0 cc. tel./gal.	51.5	70.5	...
Plus 3.0 cc. tel./gal.	59.5	75.5	...
100 ml distillation			
I.b.p. °F.	191	108	396
10%	259	199	412
50%	311	293	450
90%	374	367	630
E.p. °F.	408	399	709

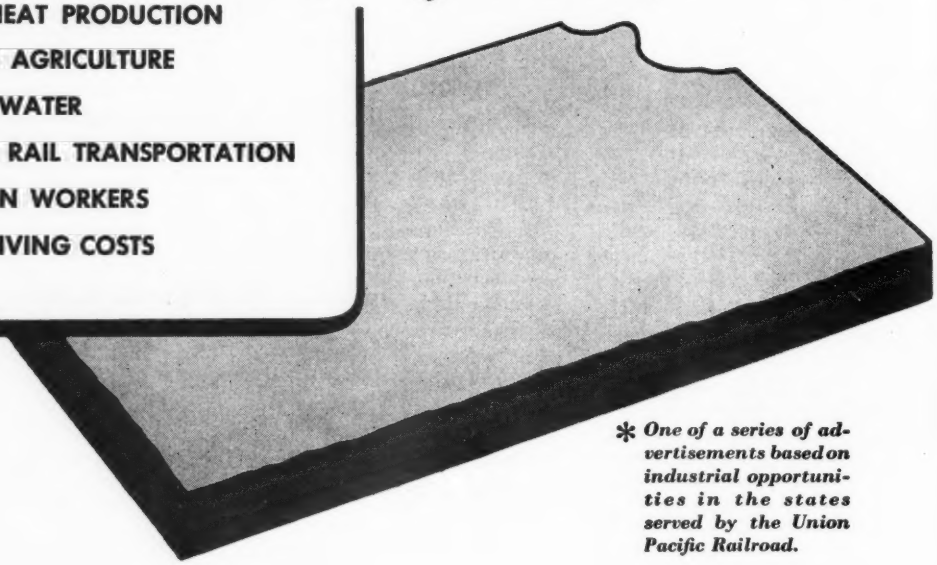
*After doctor sweetening.

UNION PACIFIC

TREASURE MAP OF INDUSTRY

RICH NATURAL RESOURCES
CENTER OF NATIONWIDE MARKET
PROGRESSIVE INDUSTRY
FIRST IN WHEAT PRODUCTION
PRODUCTIVE AGRICULTURE
ABUNDANT WATER
DEPENDABLE RAIL TRANSPORTATION
NATIVE BORN WORKERS
MODERATE LIVING COSTS

Kansas *



* *One of a series of advertisements based on industrial opportunities in the states served by the Union Pacific Railroad.*

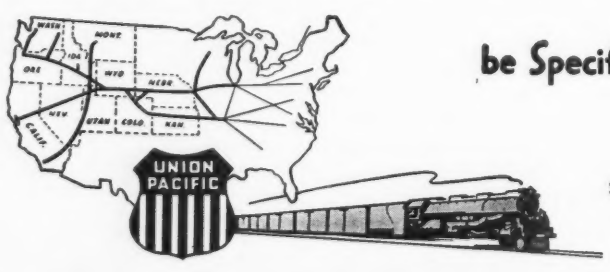
KANSAS—almost in the exact geographical center of the United States; an important factor to industries serving nationwide markets.

Agriculture is king. Kansas normally ranks first in wheat production. In addition to grains, vegetables and fruits, a large part of farm income is derived from livestock and poultry.

Kansas industry keeps step with agriculture. There are approximately 2,500 manufacturing and processing establishments. Over four million tons of coal are mined annually. Here is the largest natural gas field in the world. Eighteen principal rivers with two great watersheds provide an abundance of water. The population is 97 per cent native born.

★ ★ ★

Kansas . . . the hub of a rich market; a treasure chest of natural resources with dependable labor; outstanding public health record; moderate living costs; and excellent transportation over Union Pacific rails.



be Specific – say

"Union Pacific"

* *Address Industrial Department, Union Pacific Railroad, Omaha 2, Nebraska, for information regarding industrial sites.*

UNION PACIFIC RAILROAD

THE STRATEGIC MIDDLE ROUTE

tall only sufficient catalytic desulfurization capacity for the light straight run gasoline at present, with the intention of utilizing existing heater capacity for mild thermal reforming the heavy naphtha after installing catalytic cracking at a later date.

The position of the isoforming process in a future refinery scheme employing catalytic cracking must also be analyzed. If catalytic cracking is to replace thermal cracking eventually, the charge stock for the isoforming unit will be limited to reformed gasoline, which does not respond to this treatment as readily as thermally cracked gasoline. With a few modifications, this process could be converted to a catalytic reforming or desulfurization unit for the straight run gasoline. This would probably be the most advantageous use for this equipment although its operation would have to be justified in comparison with mild thermal reforming as previously discussed.

Economies Which Can Be Effected In Present Operations

Of increasing importance in recent years is the necessity for strict economy of refinery operations. With increased cost of crude, labor and raw material, many refiners are carefully re-examining over-all costs to determine what economies can be effected by simple changes in operating procedure. Experience has shown that the margin of refining can be increased appreciably in many cases by properly applying engineering knowledge to increase operating efficiency. When considering new installations to meet higher octane specifications, therefore, it is advantageous to investigate the over-all refining scheme including auxiliary equipment such as tankage, boiler house and treating facilities. Frequently it is found that economies brought about by revamping or modifying some auxiliary step can offset an appreciable part of the total cost of new equipment.

Table 4 lists several of the most common methods by which economies can be effected in the average smaller refinery. Experience has shown that the crude distillation operation and the handling and storage of products are often sources of considerable loss of revenue in overall operations. In addition, most of these losses are due to the escape of light hydrocarbons which have the greatest value. The determination of the source of these losses requires an accurate daily log of inventory in sufficient detail to obtain weight balances over various sections of the refinery. Critical studies of several refineries have revealed that these losses, which may usually be recovered by simple methods, may amount to from 1% to 6% of the crude charge.

TABLE 4
MOST COMMON METHODS OF EFFECTING ECONOMIES IN REFINERY OPERATIONS

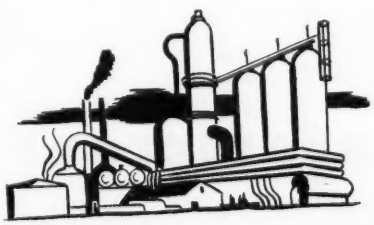
1. Reduce distillation, storage, and handling losses.
2. Increase recovery of light hydrocarbons in cracking unit gas recovery system.
3. Improve efficiencies of pumping, heating and cooling.
4. Reduce consumption of chemicals in treating.

TABLE 5
BREAKDOWN OF COSTS IN REFINERY* PROCESSING 7000 B.S.D. OF LOW SULFUR MID-CONTINENT CRUDE

	% of Total Costs
Crude	72
Casinghead	8
Direct operating (Processing and treating)	9
Tetraethyl lead	5
Indirect (Management, sales, overhead, depreciation)	6
Total (excluding income tax and interest)	100

*Topping, thermal cracking, polymerization, and treating.

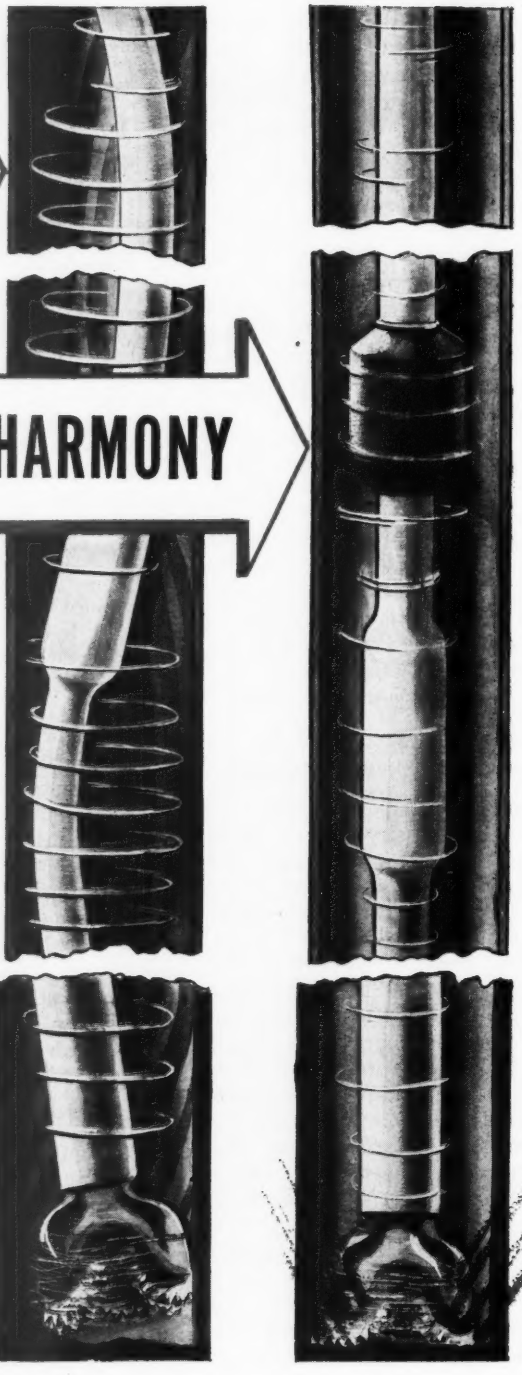
High crude distillation and rerunning losses are usually the result of undercutting the straight run gasoline to low endpoint in distillation units which are operated at atmospheric pressure. The necessity for increasing octane rating has led to a substantial reduction in endpoint of the light straight run gasoline in most refineries and the gas losses from the distillation unit receivers have correspondingly increased. One method of reducing these losses is to preflash the crude under pressure and subsequently stabilize the light straight run gasoline. Other losses can be reduced by elimination of unnecessary handling of products by making the topping, rerunning and stabilizing operation continuous with less intermediate storage and pumping.



The increased demand for either LPG or olefinic gases for polymerization emphasizes the importance of revamping gas recovery units, which are often operated to recover only 50-60% of the olefins available for polymerization. The efficiency of recovery can frequently be improved by simple modifications of operations such as the use of improved absorption mediums and over-all improvement of absorption facilities. Extensive revamping of the gas concentration system is usually required, however, to obtain recoveries of the order of 75% of the propylene and 95% of the B-B produced.

Thus far, the discussion of methods of effecting economies in refinery operation has been concerned principally with methods for reducing losses of valuable products. The last two methods listed in Table 4 have reference to reducing the so-called direct operating costs. In this connection it is of interest to examine a breakdown of total operating costs in an assumed average Mid-Continent refinery. Table 5 shows these costs on the basis of processing 7,000 barrels per stream day of low sulfur Mid-Continent crude in distillation, thermal cracking, polymerization, and treating equipment. While the direct operating costs, excluding tetraethyl lead, amount to only 9% of the total

Drill Pipe Harmonics



Become DRILLING HARMONY

when you install
Patterson-Ballagh Casing Protectors

When we talk of harmonics in drill strings, we are speaking about vibrations from the bit or any other source which are enlarged as waves in the string at definite RPM's. These enlarged harmonic waves absorb power themselves, and also cause friction when they rub against the side of the casing or hole.

The more Patterson-Ballagh Casing Protectors installed, the shorter and less violent the vibrating waves become. When your drill string is 100% rubbered, one Protector for every joint of pipe, the effective vibrating length becomes one joint. The harmonic waves that are set up in this length due to the rotation of the drill string are not large enough to cause friction losses. With 100% protection, the pipe ceases to rub the casing or the side of the hole. Casing Protectors become the almost frictionless bearing surface. Then more power goes to the bit, the torque reading goes down, and the casing life is increased many times.

Less power loss through friction means more power saved for making hole, to say nothing of the savings in drill pipe and casing wear. Making hole economically is just like making money and that is drilling harmony in anyone's language.

Install a Patterson-Ballagh Casing Protector on every joint of your drill string and change drill pipe harmonics to drilling harmony.

Consult your Composite Catalog for sizes and details. Order from your Patterson-Ballagh man.

Specify

PATTERSON-BALLAGH

DIVISION OF BYRON JACKSON CO.

"Best Bet Yet!"

CASING PROTECTORS

Main Office:
1900 E. 65th St.
Los Angeles 1

★ 6247 Navigation Blvd.
Houston 11

★ 808 Graybar Bldg.
New York 17

★ 931 Russ Bldg.
San Francisco 4

cost of operation, it is significant to note that if this cost could be reduced to 7.5% of the total, the savings would be sufficient in the average case to amortize an investment of $1,000,000 for new processes in ten years.

Steam and fuel costs are usually the most expensive items in the direct cost of operating the process units in an average Mid-Continent refinery. In many cases fuel costs can be reduced by (a) modifying or installing additional heat exchange surface, (b) improving burner operation, and (c) modifying the arrangement of baffles in the heaters. The installation of exhaust steam turbines has proved unusually successful in several refineries as a means of utilizing low pressure steam which is otherwise vented to the atmosphere. These turbines operate on steam at 2 to 5 pounds gauge pressure exhausting to a barometric condenser. The water rate usually amounts to 30-45 pounds/HP depending upon the size of the turbine.

While it is possible in many refineries to reduce treating costs by installation of more modern and efficient treating processes, there are often a number of steps in the existing treating procedure which can be modified to reduce cost. For example, modifications of the crude unit operation and stabilization of the straight run gasoline as mentioned previously, will eliminate hydrogen sulfide from this stream and reduce the consumption of caustic in treating.

Summary

The recent developments in refining technology which now permit the petroleum industry to produce improved motor fuels have been briefly reviewed. The installation of the fluid catalytic cracking process has proceeded on a vastly increased scale since VJ Day and its operation is being justified economically in comparison with thermal cracking on the basis of its ability to produce higher yields of gasoline and distillates at the expense of heavy fuel oil, with lower tetraethyl lead and treating costs.

Several of the more important factors which should be considered in future planning have been discussed. It has been pointed out that the selection of new processes for octane improvement should be considered from a long range viewpoint so that the minimum rearrangement of process equipment will be required if catalytic cracking is eventually installed. A stepwise approach to the problem of planing future additions and changes to the processing scheme is recommended.

While making major processing changes to improve octane rating a number of simple modifications in operating procedure can often be incorporated to reduce costs. Several examples of these methods of effecting economies in smaller refineries are mentioned. Detailed engineering and process studies will usually reveal other methods of improving the over-all refining scheme to provide a sound basis for future operations.

BIBLIOGRAPHY

1. Anon. Oil and Gas Journal, Plant Data and Personnel of Pet. Refg. and Natl. Gasoline Companies, 1941.
2. Anon. Pet Engr., **16**, No. 8, 113, (1945).
3. Barnard, D. P., Petroleum Processing, **2**, No. 4, 245 (1947).
4. Bartholomew, Earl "Potentialities of New Fuels in the Design of Passenger Car Engines" paper presented before Society of Automotive Engineers June 2-7, 1946.
5. Morgal, P. W., Petroleum World Annual Review p. 95 (1946).
6. Parker, F. D., National Petroleum News, **38**, No. 1, R 27 (1946).
7. Risk, T. H., and Jordan, Jane, F., Oil and Gas Journal, **45**, No. 48, 79 (1947).

Catalytic Construction Company's Crews Revise Sun Toledo Unit

Catalytic Construction Company whose personnel previously supervised reconstruction and maintenance of Sun Oil Company's refineries will take over the catalyst change at Sun's twelve-case Houdry fixed-bed catalytic cracking unit, Toledo, Ohio.

Workmen will begin operations shortly on the twelve-case unit, which is equipped with the new tube design, and it is expected that the complete catalyst change will be accomplished within three weeks. Six cases will be worked on at one time, while the other six remain on stream.

Catalytic Construction crews have been active at Sun's Toledo refinery since June, 1946, on work which included catalyst change on the Houdry fixed-bed unit, construction of a crude sweetening unit, a propane plant, a dry gas purification unit, a boiler house, and, currently, the revamping of Sun's existing gas plant.

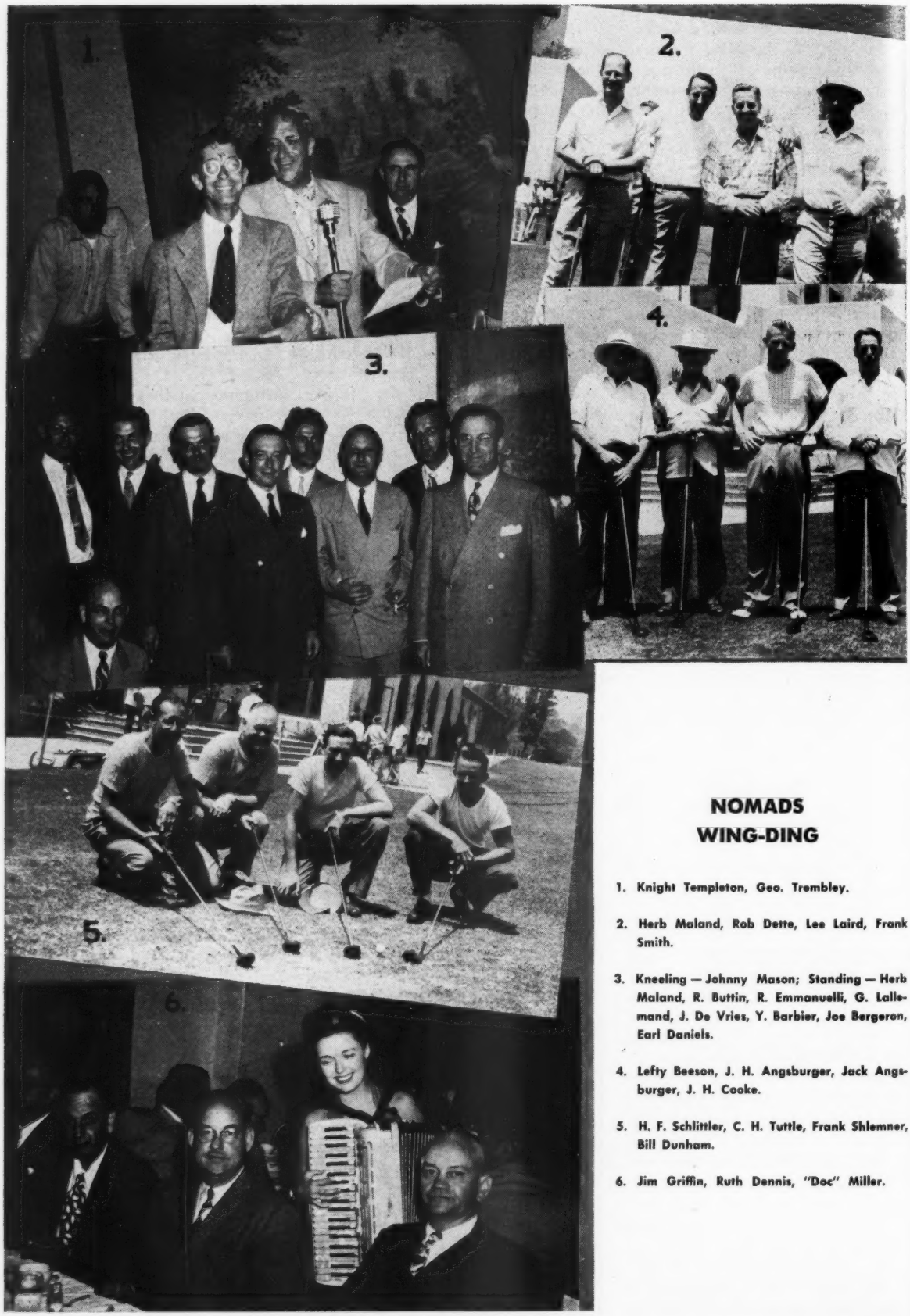
Johnston Stainless Welding Rods

PROVEN QUALITY SINCE 1931

•

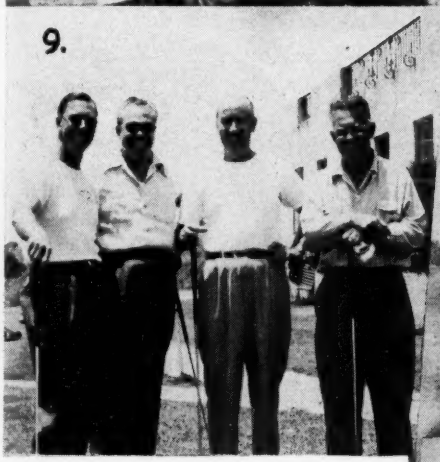
A. P. JOHNSTON

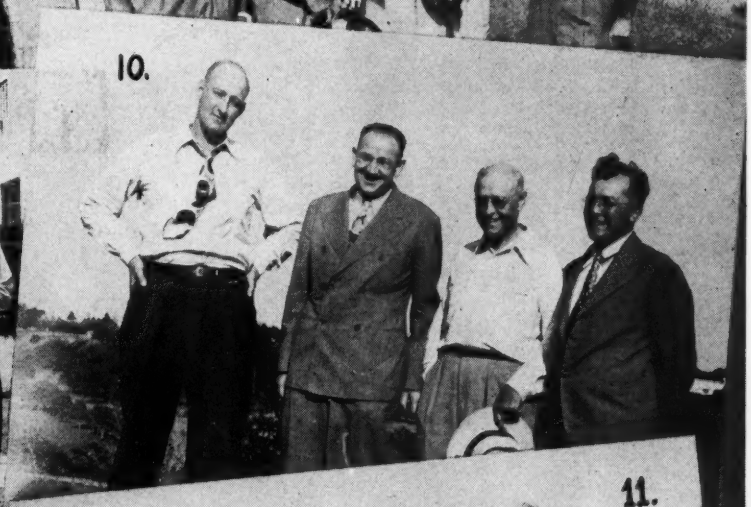
1845 E. 57th St. - Los Angeles 11, Calif.



NOMADS WING-DING

1. Knight Templeton, Geo. Trembley.
2. Herb Maland, Rob Dette, Lee Laird, Frank Smith.
3. Kneeling — Johnny Mason; Standing — Herb Maland, R. Buttin, R. Emmanuelli, G. Lallemand, J. De Vries, Y. Barbier, Joe Bergeron, Earl Daniels.
4. Lefty Beeson, J. H. Angsburger, Jack Angsburger, J. H. Cooke.
5. H. F. Schlittler, C. H. Tuttle, Frank Shlemner, Bill Dunham.
6. Jim Griffin, Ruth Dennis, "Doc" Miller.





NOMADS WING-DING

7. J. H. Cooke, Lefty Beeson, John Isaacs,

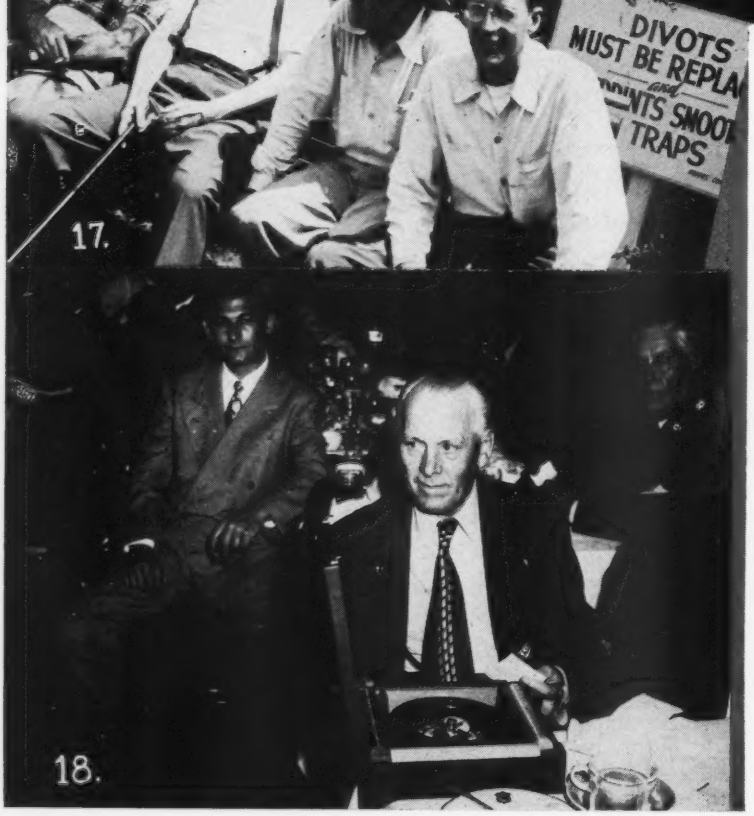
8. James Saphier, Willie Hunter, Clark Gable, George Fazier.

9. R. H. Pilson, Bob Penney, Russ Turner, Cliff Hokom.

10. E. Mahle, Eli Pederson, J. C. Ballagh, Ted Hertmeyer.

11. Lee Chisholm, Bob Eiche, Arnett Norcutt.

12. Duke Wellington, Leonard Timbs, Lloyd Hill, Joe Bergeron.



NOMADS WING-DING

13. Ruth Dennis and Nomads.

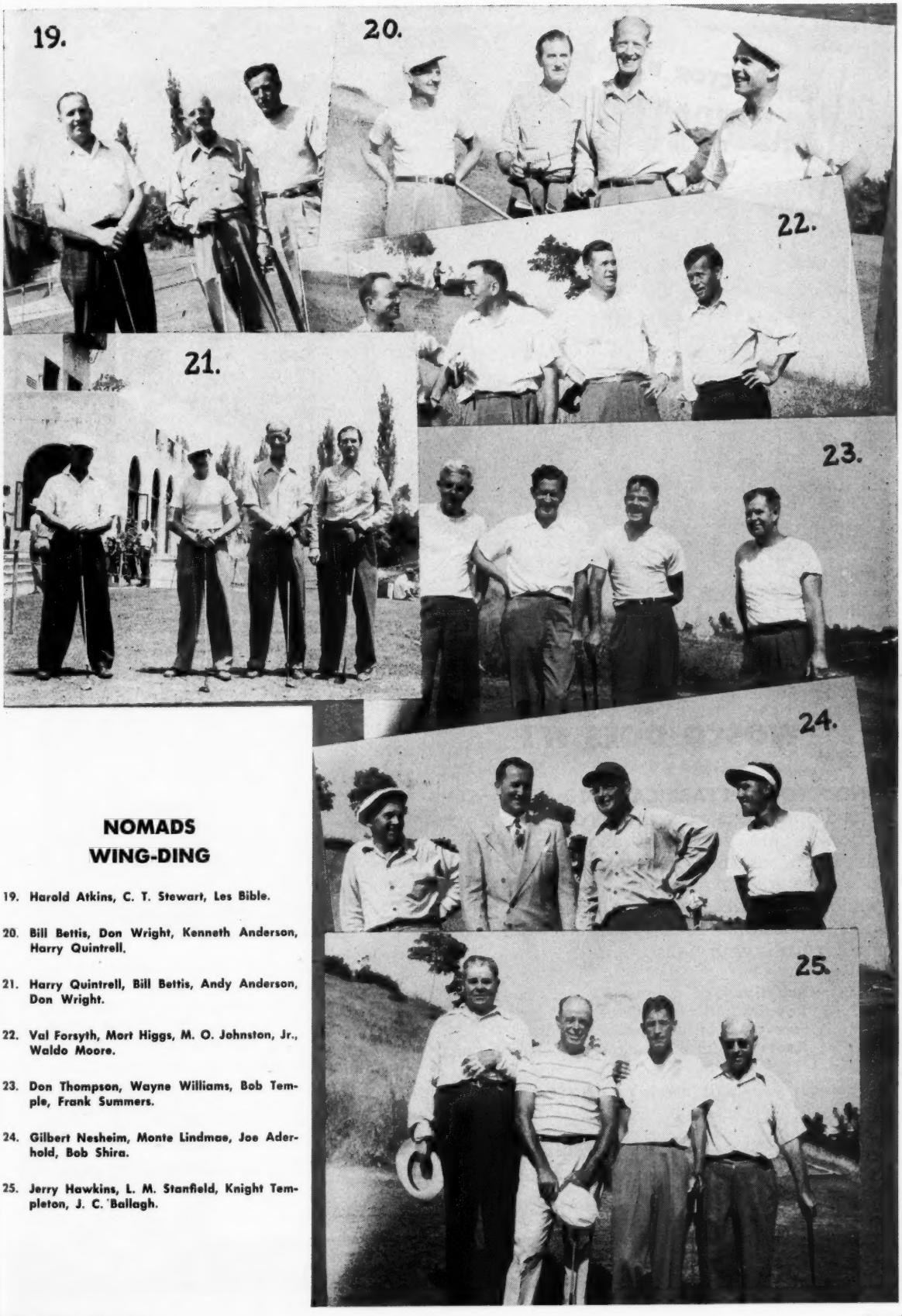
14. Bob Plane, Grant Garman, Al Isenor, Carl Hern.

15. George Lynn, L. Hagsett, Abe Haglund, Norman Dorn, "Doc" Miller, Jim Griffith, H. B. Proctor, R. H. Allen, W. T. Lunquist.

16. R. J. Johnson, Harry Clelland, Kenny Ford.

17. Gene Reid, Ron Smith, Pete Shaw, Joe Bergeron.

18. Gilbert Nesheim.



NOMADS WING-DING

19. Harold Atkins, C. T. Stewart, Les Bible.

20. Bill Bettis, Don Wright, Kenneth Anderson, Harry Quintrell.

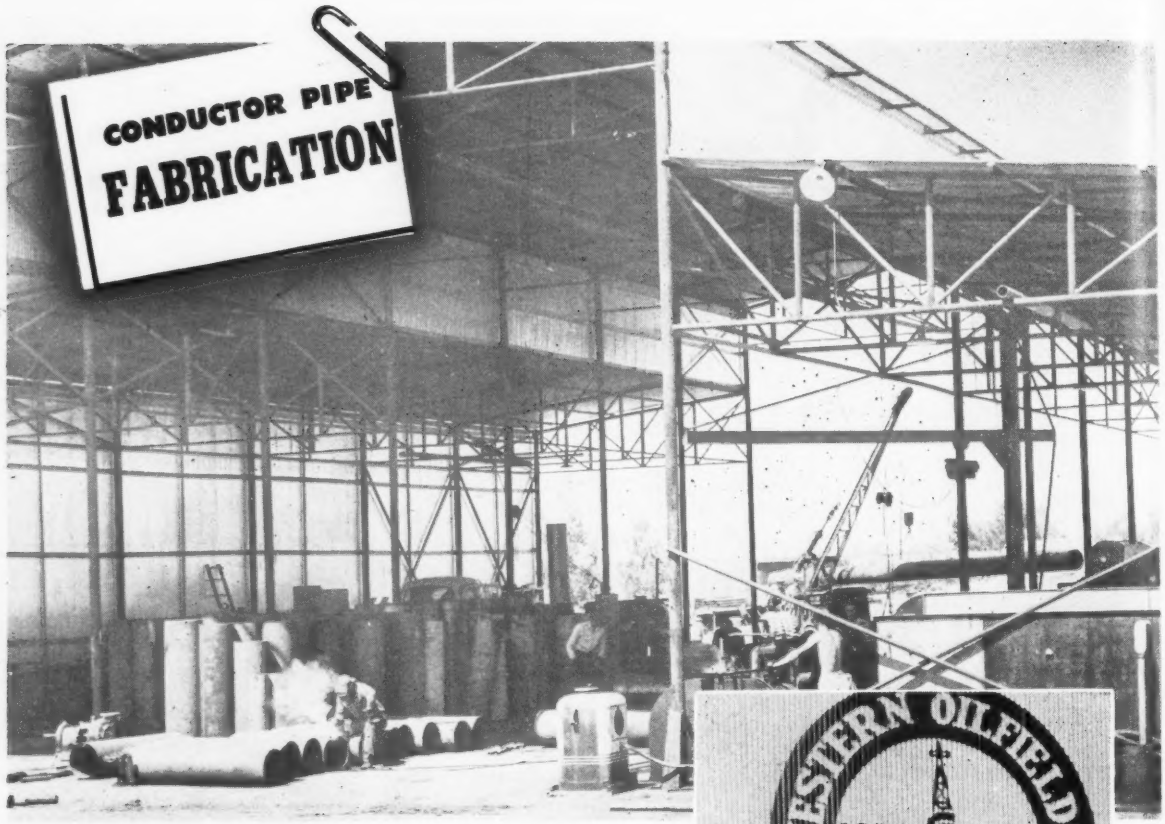
21. Harry Quintrell, Bill Bettis, Andy Anderson, Don Wright.

22. Val Forsyth, Mort Higgs, M. O. Johnston, Jr., Waldo Moore.

23. Don Thompson, Wayne Williams, Bob Temple, Frank Summers.

24. Gilbert Nesheim, Monte Lindmae, Joe Aderhold, Bob Shira.

25. Jerry Hawkins, L. M. Stanfield, Knight Templeton, J. C. Ballagh.

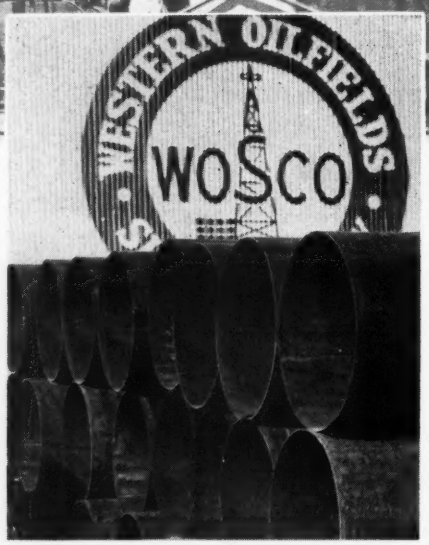


WOSCO DOES IT!

CONDUCTOR PIPE FABRICATION in Western Oilfields Supply Company shops combines the operation of the very best shop and welding equipment, skilled workmanship by experienced experts, and the use of materials of only the highest possible quality. These factors have made Wosco **the** headquarters for conductor pipe for California Oilfields.

WOSCO: **Supplies** pipe for every oilfield need
Repairs and reconditions used pipe
Fabricates oilfield conductor pipe
Rents and installs rental pipelines and pumps

Whatever your pipe needs . . . WOSCO DOES IT!



Conductor Pipe of every diameter is immediately available at all times. All common diameters are stocked—special orders are made up to your specifications without delay. Save time and money by just calling Wosco!

PIPE MERCHANTS

HIGHWAY 99 AT PIERCE ROAD • BAKERSFIELD, CALIFORNIA

Phone 6-6724

WESTERN OILFIELDS SUPPLY CO.

Kern County OIL NEWS

FOR MONTHS THIS YEAR in Kern the advent of new oil was speculative. Scarcely could two oilwigs meet when but within a moment, depletion was a subject of a common conversation.

LAST MONTH AS YOU now know "GeePee" outmoded old street talk. At Midway-Sunset's most north and east extremity the General Petroleum Corporation found oil at about 4000 feet to make it a "punchdown" for new sands.

"PACIFIC ZONE" will better identify the area, or oldsters may wish to say "out yonder near the Gibson lease." In Maricopa the news was good but better yet in ears of oilwigs everywhere, for trumors have it that the field will be restricted. Which means as you all know that potential problems have rated production opportunities. When excitement ran at prime, Judge Anderson forgot his case and failed to open court on time.

BARNEY BARNARD of the local conservation facility returned this month from pretty Hermosa Beach. Tame trumor has it that the mean temperature, and we mean mean, recorded higher scores than Kern, Moral, (if any,) "drain out your gas tank, grind up a $100 bill, turn on the **"desert cooler"** and fight with the kids at home."

KERN COUNTY tee'd off for a record in a flight earmarked with "caliente", but to date old Bakersfield has turned in a net low score over all competitors North, East and South. Oilsters no longer run to beaches and boast how lucky had been their escape from torrid towns of Kern; and but for their excellent vitality could they scarce survive.

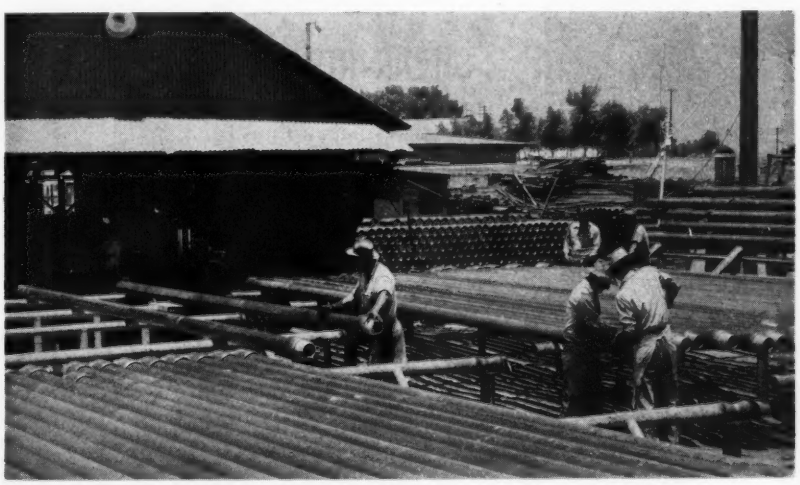
USUALLY we get angry when in a hurry a train obstructs our boulevard to town, but this one time last week the end car seemed to wave a "thank you mister" when we saw it come from Western Oilfields Supply Company spur, and it was marked "To Canada". One car at least had loaded "big inch" pipe from Charley's yard.

AND SO TO FOREIGN lands and friendly ones at that, went some of WoSco's big inch stuff that Western made right here in Bakersfield. Which reminds us that DWIGHT BOVEY the next best business image and likeness of Charlie Lake's firm is taking off again to be gone another week or so. This time its WEDDING BELLS and how they do ring in July as well as in June.

IN KERN FOR several weeks Egyptian petroleum engineers have studied deep well drilling methods. Two Cairo engineers hope to apply our skills back home in their own land. A. M. Higgy and A. M. Taha of the Anglo-Egyptian Oilfields Company at Cairo, were impressed with improvements found in Kern.

NEAR THE RED SEA 200 miles away from their home two new fields of oil were found. One in 1945 now known as the Sinai field, and the Ras. Charib field found in 1937. These have supplemented the old Hurgheda field opened in 1915.

EGYPTIAN WELLS average about 2400 feet, but in 1944 a depth of 6475 feet was drilled according to Higgy. Deepest non-producer was drilled in the Charib field. Higgy and Hata plan drilling operations over 12,000 feet or more in the Abu Sultan field. Another thing our visitors liked was the recent weather which made them feel at home. Kern cordiality and Bakerfield friendliness came in for some more big praise. The Egyptians were also "hep" on foreign relations, reminding us that they were Arabs and that Palestine was a touchy subject.



"LET 'ER BUCK" . . . said WoSco's tool joint experts as Western Oilfields Supply Company got orders to prepare 80,000 feet of new 3, 4, and 5 inch drill pipe for Loffland Brothers. Shown here is a small part of the order which came in on WoSco's spur track as one of the biggest orders received for many an oil well moon. Some of the tool joints were the Reed Super-Shrink Grip which attracted the attention of Egypt and South American visitors here studying field methods in Kern County. Fixing the tool joint is called "bucking" on.

Small Items that make a BIG difference in RIG EFFICIENCY

CAMERON
WEIGHT INDICATOR

The Cameron Weight Indicator is completely mechanical and is, therefore, free from troubles due to leakage of high pressure fluids, or fluids affected by temperature changes.

Employing essentially the same dependable, trouble-free mechanical design as the now widely used Cameron Pressure Gauge, the Cameron Weight Indicator reads load directly in pounds. Its unusual sensitive movement indicates small weight changes so that the driller can accurately maintain any desired weight on the bit. Instantly adjustable to 4, 6, 8, or 10 lines, any size. Extremely rugged. Roller bearing equipped throughout.

Write for descriptive folder.

CAMERON
PRESSURE GAUGE

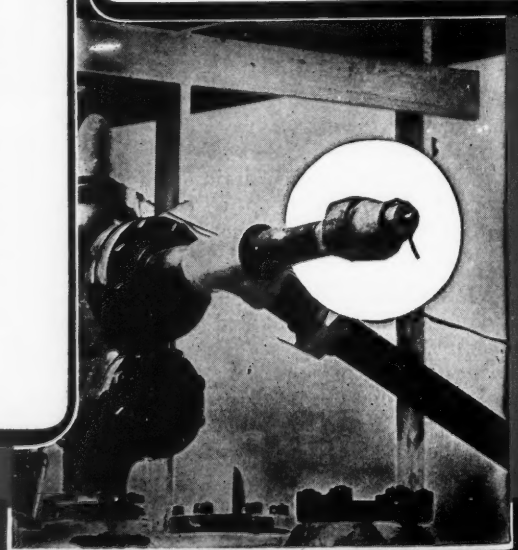
The Cameron Pressure Gauge accurately indicates line pressures in big, clear figures and division marks that may be easily read from across the derrick floor. The self-contained dampening mechanism requires no adjustment for changes in pressure range, and gives uniformly steady pressure readings where reciprocating pumps are used. All internal parts work in oil, thus eliminating corrosion and wear. The dial is cushioned against line vibrations.

Type "D" for rotary drilling rig service; type "F" for core drills, cementing and acidizing units, etc.

CAMERON
SHEAR-RELIEF VALVE

The Cameron Shear-Relief Valve protects pumps, manifolds drilling hose, etc., against excessive pressure. A common nail shears when pump pressure against the valve piston reaches the shear stress of the nail, releasing the flow of fluid through the valve outlet. The sheared nail is the only damaged part, and the valve is easily reset with another nail by any member of the crew. . . using directions on the valve name plate for nail size and the pressures at which each size shears.

Write for complete details or see your Composite Catalog.



CAMERON IRON WORKS
of CALIFORNIA

Sales Office and Warehouse — 1442 Hayes Avenue, Long Beach, Telephone 7-2036

WORK BACKLOG in Egyptian highways should encourage highway program supporters here. It is so great that it outdistances the supply of asphalt to build the roads.

SUPPLY AND DEMAND OF Kern oil is unchanged as of last month and the shippers here say that Russian demands only represent a dent into the side of the supply that is continually pushed into pipelines.

HECTOR HOLLIS is a name to remember. Many a salesman in many a kind of commodity would like to have not only a name like that, but a specimen of youth and sales vigor and vim like Hollis. As a special sales representative for JOHNSON VALVE it appears that Owen Johnson made a fair selection from applicants plus opportunity. The valve business is a young man's game and it takes a lot of guff to stand the gaff unless you have been in on the ground floor like Owen. By the way, we like his new office arrangement and a chance to see the "boss" first, without having to run the gauntlet of all kinds through new post war machinery to find where Owen was hiding.

WE SAW R. J. (FAT) DUNLAP again the other day and he is doing good with summer business. In fact it is keeping him from taking long enough time to eat properly because he seems to be "taking it off".

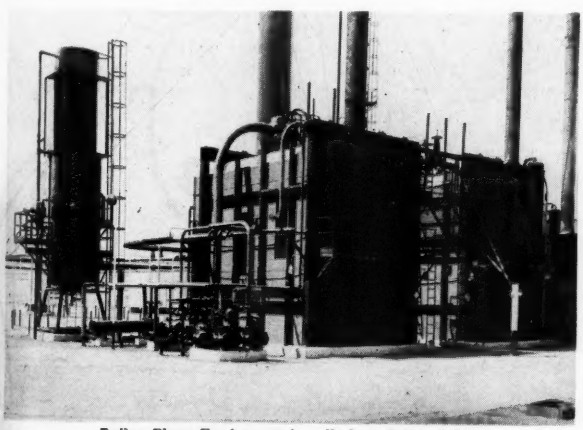
GEORGE H. PETERS who made good on his farm when four oilwells came in has been recently retired and lives in Los Angeles. For ten years he was further identified among Kern Pioneers since this century, as an Executive of the Chamber of Commerce. Last week he was presented with an Honorary Life Membership and a plenipotentiary at large.

TAXES WHICH ALONG with everything else in Kern reached new heights and established new records to the dismay of many and the regret of just as many who caused it all, were "X-rayed" by Harry A. Hopkins in his new bulletin just released. Usual comment was lacking . . . perhaps the figures spoke too loud for words . . . at anyrate by week's end some taxperts saw a $40 million valuation rise in assessment to reach almost $400 million. While that distributes the burden, it nevertheless involves the principles for tax conservation and threatens to prime the pump at the cistern.

BUT THE PRIVATE ENTERPRISE SYSTEM will flourish because it does demand many and more services of government in order that it might employ all of its skills and opportunities. Perhaps the tremendous growth of Kern, the schools, highways and other facilities to keep up with commerce may someday justify to some upping of taxes. However, no real complaints have been registered.

IN WAITING FOR THE PEACE to be written, even Kern County has forsaken many opportunities. It has been difficult to stabilize business and other allied economies of the petroleum industry and agriculture. New fears may obtain if continued obstruction to opportunities appear to dissipate incentive.

KERN OIL goes to the State Fair this year and among items to appear at the exhibit are, a 30 foot derrick, oil tank cars going to market in miniature, and educational in-



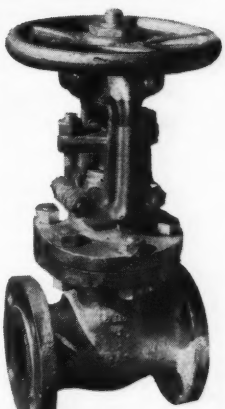
Boiler Plant Equipment installed at Bakersfield

BOILER PLANT and
Compressor Plant Construction

Completely automatic Oil Heating Plants
Johns Manville Insulation
Brick Work ★ Concrete Work
C. E. MANLEY, Manager

OIL FIELD CONSTRUCTION CO.
of BAKERSFIELD
Highway 99 West of Circle Phone 3-0750

STELLITING
IS A SPECIALTY AT
JOHNSON
VALVE SHOP



Expert workmanship and complete modern equipment for stelliting plug. valves.

Years of experience in the repair and sale of all types of oil well and refinery valves make it possible for Johnson to say . . .

"ALL WORK GUARANTEED"

Johnson VALVE SHOP
BAKERSFIELD PHONE 2-5266

formation including history and a cross section of an artists conception of a well after talking with a geologist.

J. B. STEVENS, formerly with Tidewater Associated, has been calling for ideas on the State Fair Exhibit at Sacramento. Lee Mountain, exhibit manager, once at Montebello, is asking for synthetic rubber samples and colorful formula patterns for exhibit.

HARRY PHOENIX of the Oilfields Trucking Company, reports on the new oil tax bill; and while he certainly thinks there should be money in the bag for new and extensive road building and improvement, he thinks the bad fuel tax might be adjusted. He is not in favor of legislating against a repeal of the bill in its entirety.

INCIDENTLY, speaking of O.F. T. Co. and its franchise to Nevada wayside points, it is generally known that a new franchise by San Francisco firms through the San Joaquin is in progress to eliminate the charge on freight that covers area not traversed by certain lines but used as an equalizer. This ought to really start a good subject for discussion.

ART BRUMBLY, the well packer from Ventura, was a recent visitor here.

SAM SELF of Oil Well Chemical & Materials, lives here and has recently been back East and way up North on a trip. Edward Sam is President and Milton Dyke the "vp." S. L. Abbott is secretary.

NORMAN E. LITTLE, public accountant for many an oil operator, has moved to Wasco, (not WOsco) for a few days in the week at least where agricultural accounting is as good as petroleum figures.

FOR SOME REASON OR OTHER, O. C. SLAVENS of the Baroid Sales Division of National Lead Company, has not dropped into the News office for several trips now.

K. E. PETERSON of Shell Oil Drilling Department was a visitor at the News office the other day. He had an opportunity to introduce us to some friends of his from Egypt where elsewhere in this column we show how we picked up some items for a blurb or so about various concerns' drilling operations which the Egyptians are copying to take back for extension work in their oilfields.

CHARLEY MANLEY of Oilfield Construction has been busy as an iceman on the Fourth of July showing Kodachrome slides of his trip around a third of the world. Kern County weather has been as is always, ideal for projectorslide barbecues and buffet dinners. Some of the oilwigs including allied oilers from the chambers of commerce, radio, gypsum and hardware kinfolk were delightfully entertained on an off-the-shoptalk trek to Manley's lawn which he compares favorably with Burchard Gardens and other points near Banff and Lake Louise. However, nothing in his yard rolls like the Gulf of Mexico . . . where he stepped out to take a picture of the ship he was on.

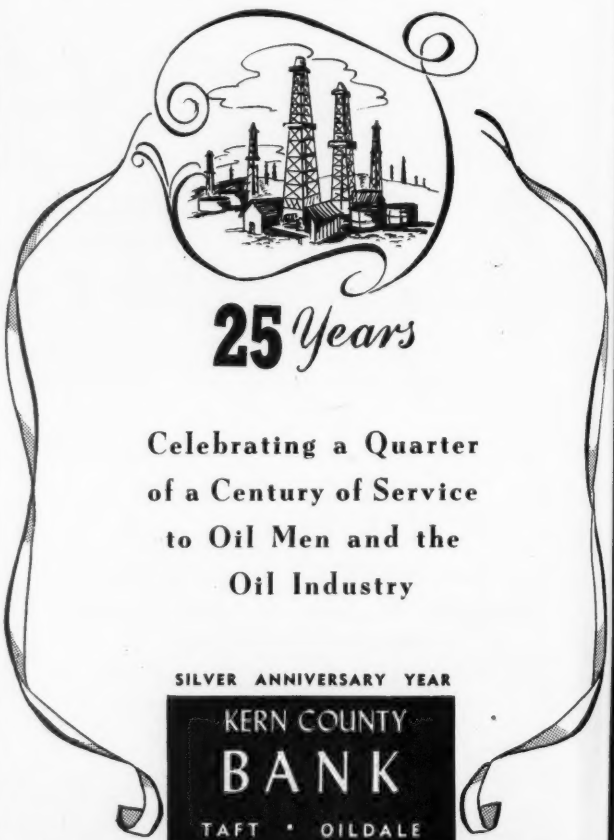
A Complete
TRUCKING SERVICE
for the
OIL INDUSTRY

Local and long distance hauling of petroleum products, drilling equipment, heavy machinery.
For the solution to any oilfield trucking problem . . .

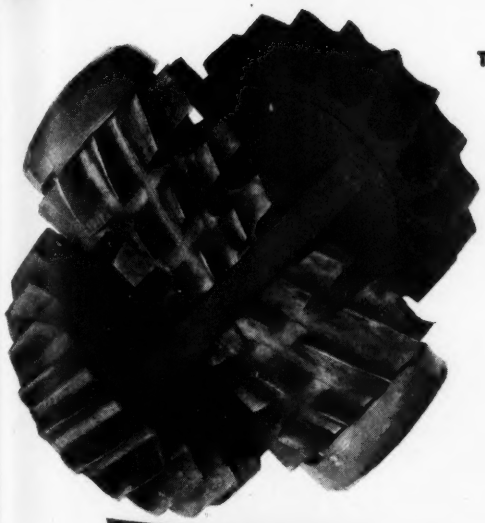
PHONE
BAKERSFIELD 6-6517

OILFIELDS
TRUCKING CO.

1601 UNION AVE., BAKERSFIELD



MEMBER FEDERAL DEPOSIT INSURANCE CORPORATION



TYPE C-2C

TYPE 4-POINT

THERE'S AN

H. C. SMITH ROCK BIT

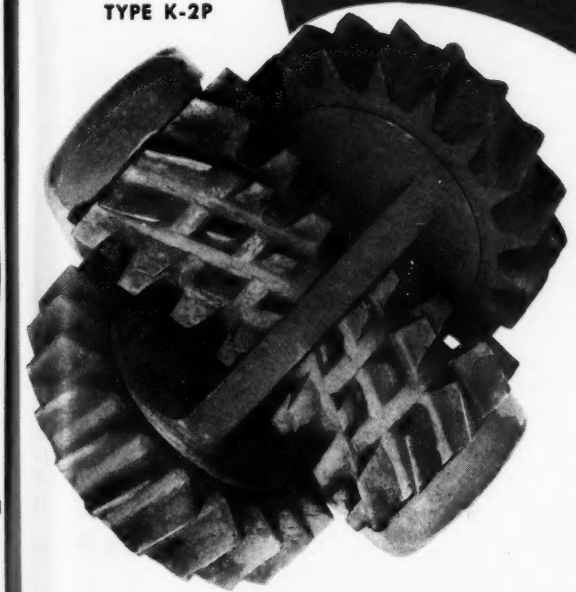
FOR EVERY FORMATION...

IN EVERY FIELD!

H C Smith Oil Tool Co.

GENERAL OFFICES AND PLANT: P. O. BOX 431, COMPTON, CALIF.

TYPE K-2P

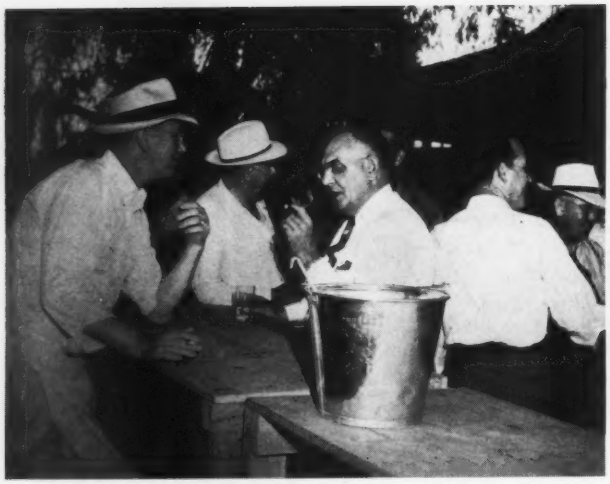


MORE

FASTER
STRAIGHTER
FULL GAUGE HOLE

WITH H. C. SMITH

ROCK BITS



DRILLING OPPORTUNITIES, NOT PROBLEMS, are being discussed on "off the cuff" style by Doug Graham of Dunlap and Graham Drilling Company, while Dave Davidson listens in on Karl Kellogg's reply to a fair question. J. E. Pettijohn and friend are oblivious to shop talk and enjoying a handshake from an old friend.

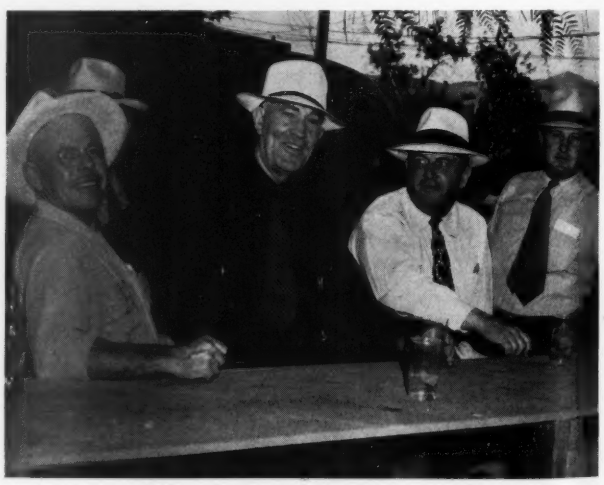
IN UNION THERE IS STRENGTH according to Harold McCarty, production foreman; Charles A. Brown, drilling superintendent; Charles Smith, production engineer, and Ralph A. McGoey, general superintendent of San Joaquin Valley, and all of Union Oil Company. However, at this time most desired was union with some barbecue as they toasted the Drilling Contractors' barbecue meeting and had one on the house.

MARTIN ORLOFF was telling us about the Lou Williams well out near his Highland Manor Subdivision which his father Sam missed through a sale of a portion of the lease adjacent to the well. We had a picture of it doing 67 barrels. Art Finch of National Supply and others were there. He (Martin) said Sam had the first Supply Company of a local nature in Kern. He sold or had made up and delivered, the first welded 12½ inch pipe in Taft in 1921. He said that there were 850 feet of it . . . used on the old Frankel Orloff well at Maricopa. He further told us that Sam had first installed the twin electric standard tool rig. A special line was built in from the old San Joaquin Light and Power, now PG&E. The La Chavez Oil Company in New Mexico was a famous wildcatter belonging to Sam Orloff. He revealed how that his father had the most westerly oil well in the Elk Hills section, which was a duster. No doubt Sam never made a nickel in oil, but others did all around his ventures.

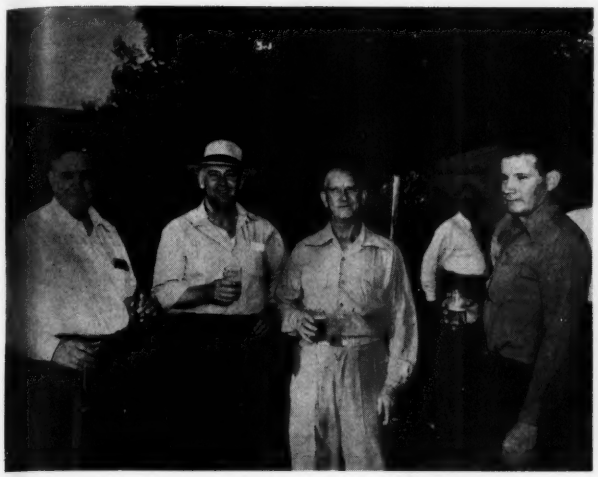
ASSEMBLYMAN W. E. JAMES has returned from a long session of the Legislature and from all reports a pretty fair job was done for Kern County. It must be remembered that W. E. (Jimmy) James is an oil man first, and his record shows that he served their interest rather fairly at that. As a geologist he was graduated from Stanford in 1924 . . . and until 1931 worked with General Petroleum beginning at Taft, Bakersfield, Coalinga, Kettleman Hills (before the famous discovery), then Santa Barbara, San Luis Obispo, New Mexico, Los Angeles, Colorado and Wyoming.

JIMMY JAMES went back to Stanford in 1931 and finished in law 1934, but retains his membership in AAPG. For 3½ years he was a Naval Air Combat Intelligence Of-

RAY JONES (center) of Pacific Western Oil and Gas was flanked on either side by (left) Lou Miller and (right) Gene Reid. In charge of registration they counted about 200 noses for the barbecue.



AT THE LEMONADE STAND with the Oilwell Drilling Contractors' barbeque, Pug York of Miller and York, Ernie Pyle of Cal Conservation Committee, Proxy (J. E.) Ed Warren of Carl B. King Drilling Company, Midland, Texas, and A. H. (Cotton) Holden of Loffland Brothers Drilling Contractors.



JUST BEFORE THE BAR-B-CUE Charlie Brewster, B. D. Duncan, Sol Staggers and friend from the Standard Oil Drilling Department took time out for the roving news photographer . . . out at the A.A.O.D.C. event at Kern River Country Club.

"COME AND GET IT" shouted Lou Miller, of Miller and York, in charge of registration at the first Kern County A.A.O.D.C.'s barbecue. Others from left to right, Senior Charley Castro, "barbecuist," Jack Thompson of T. & T. Drilling Company; Karl Kellogg, of K. Kellogg & Sons, Long Beach, and Gene Reid of the firm of the same name.

ficer in the Solomons, and at Okinawa. For the oil people in Kern who might read this information some of the legislative bills which were introduced may be of interest here.

GOVERNOR WARREN has either signed or has on his desk some sixteen bills which Assemblyman James introduced . . . those of interest to oil might be these: 1) Winding up dissolution of corporations; 2) Amend law pertaining to the recording of assignments of leases; 3) Apportionment of school support; 4) Burns-Collier Highway Bill modifying the gas tax. Other bills had to do with new highways, court judges, public utility systems, judicial townships, housing facilities, soil conservation, sanitation districts, county officials, school district relief. Plus many which failed to pass.

WESTERN OILFIELDS SUPPLY COMPANY has completed tool joint on order of 80,000 feet of new drilling pipe in 3, 4, and 5 inch stanzas for Loffland Bros. Experts at WoSco 99 Yard bucked on the Reed Super Shrink Grip joints which was witnessed by Kern recent visitors from South America and Egypt.

IN A LITTLE MATTER OF RESEARCH work sometimes it is difficult to analyze the problem before us. Given a problem whose answer is unknown, research is an orderly method of assembling material, interpretating it, and arranging it for its effective presentation. The purpose of the research is to discover new relationships, and to place these in public light for their most effective utilization. This has been done on a project or an exhibit before CAB to which is being presented an appeal for air feeder service for oilmen and operators who come to Kern and the valley and find it necessary to make short hauls by air to Taft, McKittrick, Mojave (yes), Lost Hills and Coalinga . . . Belridge and the great Western Kern areas.

Hector Hollis has been engaged by Owen Johnson of Johnson Valve Company as Shop Salesman and special sales representative. "H.H." is a young man and it takes a young man nowadays to meet the demands of oil thirsty people all over the world. Kern County Oil News tenders best wishes.

PHIL CRANER, Standard Oil engineer and Secretary of local API, is leaving with his family for the Bay Region with even the Boxer dog for annual vacation.

A. J. HEISER has moved to Long Beach to take a position as Petroleum Engineer with Brown Drilling Company. A sign across our street here says "It's Cool in Long Beach," and this may account for it . . . but we advise against using those new thermometers down that way.

A. F. TURMAN is touring the Midwest with his wife and two sons . . vacation style evidently, as he returned through Yellowstone where there is to our memory no District Petroleum Engineering necessary.

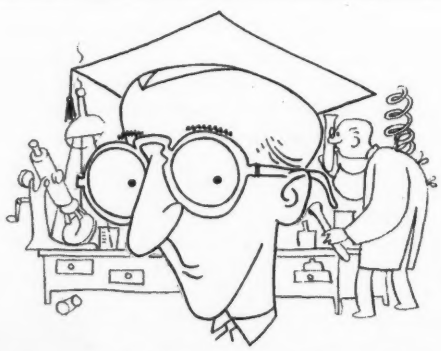
THIS BEING THE oilwigs social season at Stockdale, El Tejon, Bakersfield Inn, where a lot of batch ing is going on, the news is scarce. Stanley Beck is as accommodating as ever and is trying to round up some exhibit for the State Fair. Bill Klienfelt is as hospitable and gracious as usual and wished us many more birthdays from where he sat in the upper oil zone at El Tejon. Anyone having kodachrome slides on oil get in touch with J. B. Stevens out at Stockdale.

Most Likely to Succeed

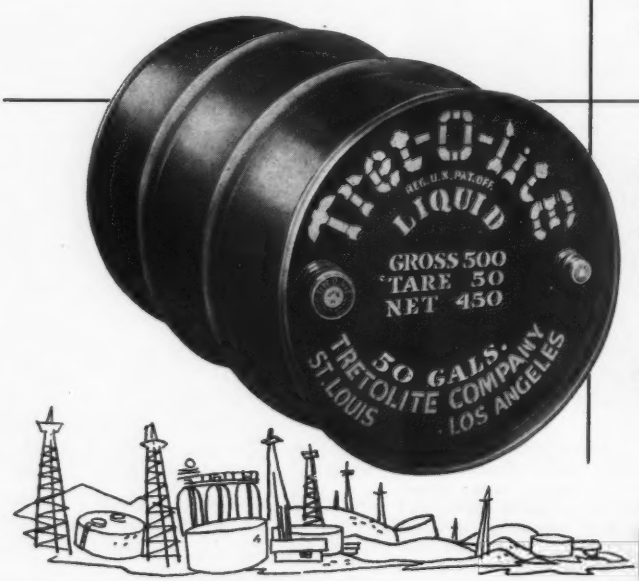
MOST LIKELY TO SUCCEED is a title usually accorded to some member of a graduating class. At Joakon "U" they parlayed on Moe, Joe and Herkimer.

MOE majored in Phys. Ed. Played fullback on football team, center on the basketball team, and pitched for the ball club. Moe has already signed big league contracts in football and baseball, has a movie contract and some offers to play basketball.

JOE delved lightly into Econ. and the Social Sciences, played a lot of bridge, polo and poker. He also got himself engaged to the daughter of Philth E. Lucre, the multi-millionaire.



HERKIMER made Phi Beta Kappa, specializing in mathematics, physics and chemistry, and won acclaim from his learned thesis on atomic power applications in industry. One day in the chemistry lab, due to an assistant's error, he hit on a beauty cream formula supposedly worth millions.



TRETOLITE is the reagent most likely to succeed when a tough emulsion is to be resolved. The Tretolite dehydrating engineer is the man most likely to succeed when you want help on any problem relative to oil field emulsions. For the best in dehydration, use Tretolite.

TRETOLITE COMPANY

Manufacturing Chemists

St. Louis 19, Missouri • • • Los Angeles 22, California

DEHYDRATING — DESALTING

TR 47-G

Personalities IN THE NEWS

Willfong Celebrates Fiftieth Year in Steel Industry

Fifty years of experience and a constant striving for perfection have provided the "know-how" which L. L. Willfong, vice-president and general manager of the Forge Division of Earle M. Jorgenson Company, Los Angeles, utilizes in the making of forgings that are widely used in the oil industry. Celebrating his fiftieth anniversary in the steel industry on July 5, 1947, Mr. Willfong continues to manage personally the modern plant which includes the 1000-ton steam hydraulic forge press which was purchased in 1942. Construction of this plant was supervised by Mr. Willfong who incorporated in it many improvements and features which long experience had proved desirable.

L. L. Willfong

Unlike most forge shops the plant operated by Mr. Willfong is always tidy, with the engine room immaculate. This care is reflected in the product of the plant. The finish is so smooth that the large diameter round forgings are, at first glance, often mistaken for rolled bars. Square kelly stems are kept within a tolerance, after heat treating, of 3/32-in. on the side, 1/8-in. on the diagonal and within 1/64-in, of square. Drill collars are within 3/8-in. on the diameter. Sound internal structure results from proper forging temperature and controlled heat treatment after forging.

Mr. Willfong started his career on July 5, 1897, in the forge shop of the Carnegie Steel Co., Homestead, Pennsylvania, as an apprentice hammersmith at fourteen cents an hour. This, of course, was before the formation of the United States Steel Corp. After serving his apprenticeship he was "farmed out" to other forge shops in the Pittsburgh district for additional experience; and Carnegie Steel, later known as Carnegie-Illinois Steel Co., had some difficulty in getting him back from his temporary employers. Upon returning to Homestead he was made assistant foreman. From there he went to the Clairton plant where he served as heater foreman until he came to California.

Upon his arrival in California in 1917 he took charge of the heating furnaces in the plant of the old Southern California Iron & Steel Co. In 1919 he was made head of their forge division and retained this position when the Pacific Coast Steel Co. took over the Southern California Iron & Steel Co. When Bethlehem Steel subsequently absorbed Pacific Coast, Mr. Willfong remained in the same capacity; and when Jorgenson bought the 1000-ton steam hydraulic forge press now in use in its Los Angeles plant from Bethlehem early in 1942 he took charge of the Forge Division.

Robert Brandon has been added to the home office sales department of Hancock Oil Co. to work on advertising and sales promotion under Newcomb D. Taylor, sales manager.

Knight Advanced by Reed Roller Bit

Jack F. Knight has been promoted to Manager of Sales Development of the Reed Roller Bit Company, Houston, Texas. In his new work he will have charge of all promotional activities, both within the sales organization and among customers. In his sales promotional work he will, through close integration of sales and advertising efforts, provide Reed customers with helpful and beneficial information.

Jack F. Knight

After graduating from Texas University, Mr. Knight started with the Reed Roller Bit Company in the shipping department at Houston. He was soon advanced to field warehouseman. His next advancement was to territorial salesman serving successively in various major oil fields. Later he was assigned to supervisory control of finished goods and then to Production Manager. In 1945 he became assistant sales manager under R. G. Hamaker, Vice President in charge of Sales who continues to direct all sales activities.

FOR A CLEANER CUT

in H_2S removal from liquid or gaseous hydrocarbons

. . . SHELL PHOSPHATE PROCESS

BECAUSE IT EMPLOYS an inorganic treating solution having a selective action, the Shell Phosphate Process offers unusual advantages in gas or liquid purification:

1. Hydrocarbons being treated are not contaminated with the treating solution, and harmful effects upon subsequent processing are thus avoided. *The treating agent of this process is not soluble in hydrocarbons.*

2. In the presence of much CO_2, H_2S can be removed while most of the CO_2 is left untouched.

3. Regenerated H_2S is relatively pure because of the selective removal action, and because the treating chemical has no vapor pressure and hence cannot contaminate the H_2S released in the stripper.

4. Direct-fired regenerators can be used since the *inorganic* treating chemical is thermally stable.

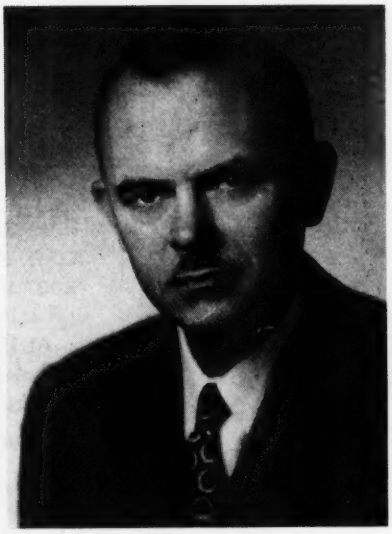
The Shell Phosphate Process together with experienced engineering service for its design and operation are available to any refinery under license from the Shell Development Company, Incorporated. Complete information will be supplied upon request.

SHELL

SHELL DEVELOPMENT COMPANY, INCORPORATED

50 West 50th Street, New York 20, N. Y.

J. M. Evans



R. W. Parker

E. S. Warner

Standard Announces Executive Changes in Engineering Dept.

Standard of California recently announced the appointment of J. M. Evans to the position of Chief Engineer and Chairman of the Board of Engineers.

Evans, Assistant Chief Engineer since 1944, succeeds H. H. Hall, now a director and vice president of Trans-Arabian Pipe Line Company. Hall also continues with Standard as consulting engineer.

Evans began with Standard of California in 1915, on graduation from the University of California. After service in World War I, he returned to the company's engineering department in 1920, and since that time has been associated with Standard's engineering and construction work. From 1929 to 1939 he headed the civil engineering division of Standard's Engineering Department and in 1943 he was made assistant to the Chief Engineer.

Standard also announced three other appointments in its Engineering Department. R. W. Parker and E. S. Warner become Assistant Chief Engineers and A. W. Horton is made Assistant to the Chief Engineer.

Parker, a graduate of University of British Columbia, has been with Standard since 1930. He has been chief engineer of the company's manufacturing department since 1946. Warner, chief designs engineer since 1945, graduated from Yale in 1934,

A. W. Horton

and came to work for Standard two years later. Horton has been supervising engineer in the company's engineering department for the last two years. He is a graduate of Massachusetts Institute of Technology, and has been with Standard since 1939.

Thomas Patrick Simpson, for many years a chemical engineer for General Petroleum Corp. at Los Angeles, has been named a director of Socony-Vacuum's research and development laboratory at Paulsboro, N. J. He is a brother of William E. Simpson, district attorney for Los Angeles County.

Robert D. Fagan has been appointed sales representative for International Cementers, Inc. in the important Long Beach district to replace M. W. "Monk" Cook who has resigned to do selling work in the Near East.

Bob Fagan was with Pacific Cementing from 1937 until it was made International Cementers in 1940 as cementer district manager and special representative. His wide knowledge of drilling problems and his acquaintance among men of the oil fraternity will enable him to ably carry on the fine relationship which ICI has enjoyed with their customers in the past.

Mr. Jack S. Smith, manager of operations and sales for International Cementers, Inc. returned last week from a two month trip to Europe. He contacted personnel of oil companies in England, Holland, France, Denmark and Egypt. He suggests, for the benefit of interested vacationists contemplating a trip to the continent, that they "see America first!"

Bob Palmer, recently separated from the Navy, is a member of Texaco's touring bureau in Los Angeles. He is working with Manager Len Haggard and Johnny Knipe handing out information on the best motor routes to customers of the company.

BOWEN TOOLS Perform 100% on world's deepest well

Here's the record*

At 16,400 feet twisted off and left 100 ft. drill collars in the hole. A series "200" Bowen Overshot retrieved the drill collars.*

At 17,715 feet a bit cone was left in the hole. A Bowen Junk Basket recovered the cone.*

***WORLD RECORDS TO DATE.**

Superior Oil Company's Weller No. 51-11, Caddo County, Okla.

Regardless of depth BOWEN FISHING TOOLS are the best equipment you can use

Every drilling rig should have these standby tools!

BOWEN JUNK BASKET

An ideal tool for recovering all types of junk, for coring purposes, and as a hole straightener. Deflection of fluid from hole wall to center of tool, coupled with reverse circulation, washes all junk into basket instead of forcing it away. *Uses full pump pressure.* Comes in sizes from 4⅝" to 17½" and is engineered to recover all types of bit cones used to drill hole sizes within its range.

ONLY THE BOWEN JUNK BASKET HAS THE REVERSE CIRCULATION FEATURE

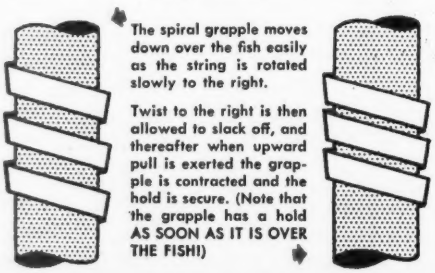
With this tool there is never any danger of circulation pressure bearing against and causing loss of the fish, nor any need to pull a wet job.

BOWEN RELEASING OVERSHOT

Catches and packs off drill pipe or tool joint without changes or adjustments. Spiral grapple cinches tighter as pull increases and gives a full-length positive grip.

Sets and releases to the right instantly and safely. Easy to use.

Available with one to four bowls to meet all conditions encountered—and in sizes for every pipe string.



The spiral grapple moves down over the fish easily as the string is rotated slowly to the right.

Twist to the right is then allowed to slack off, and thereafter when upward pull is exerted the grapple is contracted and the hold is secure. (Note that the grapple has a hold AS SOON AS IT IS OVER THE FISH!)

BOWEN FISHING TOOL COMPANY

SANTA FE SPRINGS, CALIFORNIA

VENTURA • BAKERSFIELD • AVENAL • SANTA MARIA

CASPER, WYOMING

Export: S. R. BOWEN CO., 30 ROCKEFELLER PLAZA, NEW YORK, N. Y.

Ragatz Joins Gill Organization

The J. B. Gill Company, engineering and construction firm, of Long Beach and Los Angeles recently announced the association of Mr. E. G. Ragatz, nationally known Process Engineer, with its organization for the purpose of making available to the Oil Industry a complete, experienced service from advanced process and mechanical design to construction "know how", in the field of Natural Gasoline recovery.

E. G. Ragatz

Ed Ragatz has been actively identified with "Natural Gasoline" for the past twenty years, and is nationally recognized for his many technical contributions to the industry. During this period he has initiated many advances in plant process and engineering designs, while contributing extensively to the technical literature.

His latest contribution is the Straight-Line Chart method of evaluating absorber performance, which gives promise of developing into one of the industries most effective process tools.

The Gill organization, now under the direction of Glen J. Gill since the retirement of its founder, Mr. J. B. Gill, a year ago, has served the industry successfully for the past twenty-five years.

Mr. Harry R. Marsh the company's Chief Engineer adds 20 years of diversified experience in the engineering and construction field to this new, well balanced combination which is designed to assume a prominent position in the field of advanced Gasoline Plant design and construction.

Harry R. Marsh

Art Weis of Pacific Pumps, Inc., a Dresser industry, has returned to Los Angeles from an extended trip to London and other European points.

Bill Slater, chemist for The Texas Co. at the Montebello laboratory, recently became the father of a baby girl. She has been chirstened Susan Marie. Mrs. Slater was Pat McGreevy, a former Texaco employee.

Los Angeles oil men were profoundly shocked at news from Chicago telling of the death of William Wirt King, 47, an attorney for Sinclair Oil Co., and a cousin of Harry F. Sinclair, president of the company.

The election of Byron Rife as vice president of Holly Development, has been announced by C. A. Johnson, president of the company.

Mr. Rife, for many years actively engaged in the oil business, will be in charge of Holly's leasing and exploration activities in Texas, with headquarters in the Milam Building, San Antonio.

A graduate of Purdue University, Mr. Rife did post-graduate work at Massachussetts Institute of Technology. He took time out from the oil business to enter the Army just before Pearl Harbor and he served as a colonel during the war.

Patterson Ballagh Appoints California Sales Manager

The appointment of "Cliff" (C.S.) Divelbiss as California Sales Manager has been announced by Patterson-Ballagh. He assumed his new responsibility following the A.P.I. Convention at the Yellowstone National Park in June. Cliff has worked in the oil fields since 1925, working 4 years for the Standard Oil Company, and then 14 years in oil well cementing. Cliff has represented Patterson-Ballagh as a field man in the Los Angeles Basin for the past three years and is well known throughout the California fields.

C. S. Divelbiss

R. W. Shira

"Bob" (R. W.) Shira, formerly Advertising and Sales Promotion Manager for the firm, will take over Cliff's duties in the Los Angeles Basin. From 1938-42, Bob was in the sales department of the Hughes Tool Company in California. He left to serve Uncle Sam in Canada and Alaska, returning to Hughes in November 1945. Since June 1946, he has been handling the advertising of Patterson-Ballagh. Bob has many friends throughout the industry who will be glad to see him active in the field again.

D. B. Pinnell, for more than 10 years with Amerada Petroleum Corp. has been transferred from the Riverdale field to the Los Angeles office, where he is assistant general superintendent for the company.

Ray Alexander of The Texas Co. scouting department is on his annual vacation. During his time off he is giving chief attention to his new home at Huntington Park.

Thomas Wyatt Simmons, president of Bolsa Chica Oil Corp. has said good-bye to Los Angeles and left for an airline tour of important Southern American cities.

Pictured above is the new Board of Directors of the Southern California Meter Association. In the front row: Merrill Berkley, Chairman Publicity; James E. Gesner, Chairman Entertainment; Lawrence B. White, Chairman Instrumentation. Middle row: John A. Till, Chairman Standards; W. Frank White, Chairman Membership, Curtis G. Cortelyou, President; J. C. Groenewegen, Vice President; C. S. Beard, Chairman Program. Back row: J. Andrew Waltman, Auditor; James E. Adams, Chairman By-Laws; George A. Forster, Jr., Secretary and Treasurer. Missing from the picture are Ross T. Furlong, Chairman, San Joaquin Valley Chapter, and Lee Cheever, the Past President.

These men were chosen from an enrollment of 373 members and were elected at a Special Events Meeting held on June 19th at the Rio Hondo Country Club.

Rodman K. Cross, geologist, has left the Hancock Oil Co. of California, to enter private consulting work in Long Beach. His address is 5141 Hanbury Avenue, Telephone number is Long Beach 53-450.

R. E. Tiff, formerly a member of Signal Oil & Gas Co., has taken over the Grandell Oil Co. property in Sections 11 and 12-27s-27e near Poso Creek. A number of wells will be worked over.

Anne "Honeywell" Nottingham, late of Union Oil Co.'s research drafting department, is the mother of a new baby girl.

Gas company Legionnaires chose Clyde H. Potter of Southern Counties Gas Co. to head Post 609 during the current fiscal year at the regular monthly meeting of the Post.

Russ Havenstrite, one of California's most energetic oil developers, is back at his Los Angeles office, following a trip to Alaska, where he inspected a number of mining properties.

J. B. GILL COMPANY

ENGINEERS AND CONSTRUCTORS

AND

EDW. G. RAGATZ

ABSORPTION SPECIALIST

Announce Their Association for the Processing, Engineering and Construction of Advanced Design Natural Gasoline Plants and Units for the Western Industry

Long Beach, California
P. O. Box 851

Los Angeles, California
408 So. Spring St.

Just Say---

YES! You may send me the CALIFORNIA OIL WORLD for one year, for which I enclose $1.00.

Name .....

Address .....

City ..... State .....

Position ..... Company .....

Check branch
engaged in Producing..... Refining..... Natural Gasoline.....
Marketing..... Manufacturing.....

Subscriptions accepted only from persons actively connected with the oil industry.

CALIFORNIA OIL WORLD
706 So. Valencia St., Los Angeles 14, Calif.

With Drilling Contractors

American Association of Oilwell Drilling Contractors' dinner meeting at Scully's Cafe in Los Angeles was given over largely to formulation of plans for the national convention of the association next October in Long Beach. Karl Kellogg of K. L. Kellogg & Sons, presided at the gathering, which was attended by Brad Mills of Dallas, executive vice-president of the countrywide drilling organization.

The convention is expected to draw more than 2000 contractors from oil areas throughout the country. Most members are planning to have their wives accompany them for a look at California's endless array of natural and man-made wonders.

J. E. Warren, Dallas drilling contractor and president of the association, recently commenting on the convention, said drillers in oil areas outside of California probably will find much of interest in the Golden State's high rotary speeds and slant hole operations.

Doug Graham, is in charge of publicity for the fall meeting.

Gene Reid Drilling Co. has the contract from Victory Oil Co. calling for the drilling of wells No. 31 and No. 32 in the Cymric field.

Mutual Development Corp.'s scheduled wildcat test in the Newhall area will drill under the expert guidance of LeBow & McNee, which has the drilling contract.

George Terry has spudded Porter Sesnon's Chevalier No. 1 on wildcat ground west of Coalinga.

San Joaquin Drilling Co. of Los Angeles has established a new drilling depth record for Utah, with its contract job for Pacific Western Oil Co. near Price in Carbon County, Utah, which at last reports had reached 11,216 ft. Drilling at this location is described as exceptionally hard and tough. This is reflected by 349 drilling bits used to present level. San Joaquin currently has five strings of drilling tools in California areas.

Current contract jobs of Drilling & Exploration Co. in foreign fields include eight in Brazil and one in Paraguay. Five jobs are scheduled for Turkey. Four strings are in operation in California.

Tom Pike, president of Thomas P. Pike Drilling Co., plans to return to Los Angeles, September 1, from a vacation in the East, which took him to Washington, New York and New England cities. Most of Tom's forbears hail from that part of the country.

One of the most interesting jobs in the state is Rocky Mountain Drilling Co.'s redrill of Standard of California's prospect in the Middle Dome wildcat district of Kettleman Hills. The well went originally to 12,389 ft. for a new Eocene discovery. Drill pipe fish, however, interfered with a true revelation of the well's capacity to produce. Rocky Mountain should reach a depth comparable with original bottom early in August. The contract firm has jobs going in all sections of the state.

Fowler Drilling Co. has brought to successful conclusion Brookline Oil Co.'s latest producer in the Wilmington field. Known as Harbor No. 6, the well is pumping from 3550 ft.

Union Oil Co.'s newest well at Brea-Olinda was a contract job with Camay Drilling Co.

Clayton Severns and Ashley DeWitt, officials of Severns Drilling Co. are drilling a well in their own right in the East Coyote field.

Black Nugget Oil Co. plan to contract the drilling of several wells in proved and semi-proved sectors in the Santa Maria area.

Master Drilling Co.'s recent completions include Independent Exploration Co.'s Temblor No. 13 in the Salt Creek field.

Stansbury, Inc. is the contractor drilling Standard of California's Wahl No. 1 in the Chico area of Butte County. Location falls northeast of the Standard's Donohoe Fee discovery well.

Shell Oil Co.'s Union Poindexter No. 1 test well, which has made a discovery northwest of the Athens field, was a contract job with Herley-Kelley.

Hayes & Sprague, Inc. is making steady progress with Seaboard Oil Co.'s deep test in the Lawndale field. Strictly a "no dope" project, developments to date are being closely withheld.

Brown Drilling Co. is the contractor on Cleveland Oil Co.'s Gardena No. 13, ready to start work in the Alondra area.

C. C. M. O. Co.'s interesting exploratory venture in McLure Valley, Kings County, is going ahead under the supervision of Miller & York.

Ivy Drilling Co. is rigging pump to Commander Oil Co.'s No. 8-F in the Hopper Canyon field.

Field Development

PREPARED FROM CALIFORNIA OIL WORLD NEWS SERVICE

Los Angeles Basin

Orange County Test Planned

John F. Stout, long identified with California oil development, has under consideration the drilling of a test well northeast of Fullerton on a 1300-acre lease. He has derrick and other equipment on hand to move in, with the staking of location.

West Newport Drilling Brisk

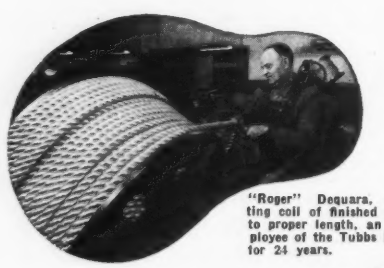
J. A. Smith has started McCain No. 1 in Sec. 17-6s-10w near the intersection of Victoria and Valley Sts. in the West Newport area. Hiawatha Exploration Co. is drilling at 5640 ft. with Smiley No. 3 in Sec. 7-6s-10w. Drilling has reached 4907 ft. in Amerada Petroleum Corp.'s Farnsworth No. 36-7. California Exploration Co. is putting on the pump Cagney No. 1 in Sec. 28-6s-10w. Total depth is 2511 ft., with plug at 1604 ft. Foundation is in for Honolulu Oil Corp.'s Lamb No. 1 in Sec. 6-6s-10w. Drill pipe fish has the attention of Republic Operators, Inc., with its Newland No. 1 in Sec. 12-6s-11w.

Riverside Try Works

Palomar Oil Co. is preparing to set casing in its Tyrell No. 1 in Sec. 13-8s-1w near Temecula in Riverside County. Several intervals between 1500 ft. and bottom at 2567 ft., are in line for testing. Signal Petroleum Co. of Calif. controls 130 acres offsetting the project.

Newhall Try Starts

Approximately two miles west of Newhall, Mutual Development



"Roger" Dequara, cutting coil of finished rope to proper length, an employee of the Tubbs Mills for 24 years.

MEN and ROPE

To win and hold confidence through generations of users mean that a product must be uniformly good. In the Mills of the Tubbs Cordage Company old timers —many with a quarter of a century or more of rope making experience—take a pride of craftsmanship in their work. This combination of MEN and ROPE is another of the plus values that make the name TUBBS stand for quality leadership.

Manufactured by

TUBBS CORDAGE COMPANY

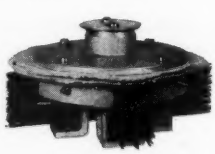
Distributors

Bethlehem Supply Co.
(Mid-Continent and California)
Allied Supply Co. Clarke-Wall, Inc.
Hickey Pipe & Supply Co.

THE CAVINS DUMP BOTTOM...

is the tool you need for dumping any amount of cement, sand, gravel, acid, or chemical, etc., in a continuous operation without interruption. The full open throat eliminates the hazard of stringing a load through the fluid column. There are no valves, sleeves, or ports to become fouled or clogged—no danger of accidental or premature unloading due to line whip or faulty brakes.

THE CAVINS BRIDGING PLUG



...for use in combination with the CEMENT DUMP BOTTOM, is ideal for use in starting an off-bottom bridge or plug. Made of drillable material, can be used for temporary or permanent installations.

24 HOUR SERVICE FROM...
THE CAVINS COMPANY
Long Beach: 2853 Cherry Ave., Phone 485-64 • Ventura: 1641 N. Ventura Ave., Phone 6767 • Santa Maria: Phone 1210-L • Bakersfield: 1120 33rd St., Phone 6-6860 • Taft: 204 Center St., Phone 1127

Corp. is starting Lasalle No. 1 in Sec. 10-3n-16w on a lease of sizeable proportions. The play is based on a sand pinch-out, with the test probably going to somewhere between 6500 and 7000 ft.

Inglewood Well Fishes

Basin Oil Co. while drilling out with City of Inglewood No. 1 in Sec. 28-2s-14w in the Inglewood area preparatory to a third water shut off test, lost bit cutters. This job, however, is about to be completed and the well finished. Casing is set on bottom at 10,563 ft.

Alondra Try Digs

In the Alondra area, British-American Oil Producing Co. is redrilling at 8269 ft. with Park Community No. 1 in Sec. 22-3s-14w. Cleveland Oil Co.'s Gardena 15 is a location. Stub liner is being run for a test of H. C. Christie's Johnson No. 1. Drilled to 9351 ft., a second formation test of the project failed. Idle at 60 ft. is the report from Thomas Connell's McKinley-Wetzel No. 1. Petrol Corp.'s School House No. 1 has foundation in. No. 2 is a location.

Simi Try Drilling

With nothing untoward to mar the even path of drilling Union Oil Co. has reached 2800 ft. with Simi No. 9 in Sec. 18-3n-17w in the Simi area.

Newhall-Potrero Well Promising

General Exploration Co.'s Ferguson No. 3 in Sec. 36-4n-17w in the Newhall-Potrero area, in which interest is divided with Union Oil Co., is drilling at 7995 ft. The project apparently has cored considerable oil sand to present depth. If the deeper zones correlate with those in Barnsdall Oil Co.'s holdings near by, a development of some moment probably will be chalked up. The try will go to around 10,000 ft.

Long Beach Well Flowing

Shell Oil Co.'s Dolley No. 2 in the Long Beach field is back on production and flowing to tanks an estimated 1120 barrels of 32.7 gravity oil daily, along with 1,600,000 cubic ft. of gas. The bean is 18/64-in. Line cut is 30 per cent, and tank cut, 6 per cent. Perforated intervals are 10,056-10,192 ft. and 10,247-10,317 ft.

Del Valle Job Works

Troubles associated with running liner have delayed test listed for R. E. Havenstrite, Operator, Lincoln No. 15 in Sec. 16-4n-17w in the Del Valle field. Total depth is 12,868 ft., with casing set at 10,331 ft. The project shows signs of a new deep zone discoverer.

Beach City Well Rigging

President Oil Co. of Santa Ana, headed by E. U. Plavens, is rigging up to drill Plavens No. 1 near 20th and Orange Sts. in the townlot area at Huntington Beach.

Lawndale Well Plans To Retest

Packer failed on an initial test with the result Seaboard Oil Co. is preparing to retest Johnson No. 1 in Sec. 17-3s-14w in the Lawndale field. Present depth is 8020 ft.

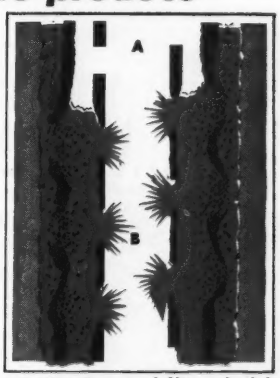
Filter Cake has 2 faces

It's fine when you're drilling . . . but it's the devil and all when you're trying to produce

As you know, one of the reasons for using mud while drilling is to build up a filter cake to protect the formation. Fine! But—if filter cake keeps drilling fluid **out** of the formation, obviously it will hold oil **in** the formation. Not so good, then! (See A.)

That's where a McGaffey-Taylor Pressure Washer comes in. Using the terrific force of **controlled** hydraulic pressure, it drives a powerful jet between close-spaced packers to break up that filter cake and scour the formation clear and clean, to bring in **all** the oil that well will produce. There isn't space here for the full story. To get that,

Write for NEW Well Washing Bulletin, or ask a representative to demonstrate transparent model.



A further danger of filter cake left in the well is shown at B. Oil breaking through a few weak spots in the filter cake travels at relatively high velocity, carrying excessive sand. Perforations are being cut away, the sand body is caving: eventually this pipe will collapse.

McGaffey-Taylor
CORPORATION
WELL-WASHING SERVICE
2852 CHERRY AVENUE, LONG BEACH 7, CALIFORNIA
PIERCE ROAD, BAKERSFIELD, CALIFORNIA

Coastal and Northern District

Montalvo Adds New Prospecting

Richfield Oil Corp. is grading location and building roads for its Del Cielo No. 1 in Sec. 30-2n-22w in the Montalvo area, recently opened up by Standard of California. Richfield's drill site falls 3800 ft. north of Standard's McGrath No. 65-3 well, currently digging below 9100 ft. Standard's Maxwell No. 1 in Sec. 25-2n-23w is drilling at 8226 ft.

Texas Co. has location staked for Max Fleischman No. 1 in Sec. 14-2n-23w. The property is owned by Max Fleischman of yeast fame.

Santa Maria Active Area

San Maria is the scene of several interesting field developments.

The new Karda Corp. is ready to work over and put back on production 10 wells idle in Sec. 23-9n-33w near the field proper. The wells lie on 280 acres of the old Dominion and General Petroleum Corp. leases. Ward B. Blodget is president of the company, Kent Allen, vice president and secretary, and Charles H. Kiskey, treasurer.

Signal Oil & Gas Co. has purchased the production of A. N. Macrate & Sons in the field, as part of an expansion campaign. The transaction included one flowing well and 13 pumpers on the Anselmo Fernandez and Marion R. Rice leases. The wells are near the Adams Ranch, where Union Oil Co. made the original discovery. Macrate was an early developer in the field.

Black Nugget Oil Co., headed by Robert A. Wallace, has acquired leases for well locations in proven and semi-wildcat sectors. Plans have been drawn for a number of contract drilling jobs.

Winters Area Gas Hunt Scene

Shell Oil Co. has made another location for a gas test in the Winters area of Yolo County. This latest try is known as Heinz Unit No. 1 and it will drill on Sec. 20-8n-1e. Winters Unit No. 3-1 in Sec. 18 has been abandoned at 5195 ft. Meridian Unit No. 1-1 in Sec. 5-9n-1e in the Meridian area is making hole ahead at 3773 ft. Lambie No. 6 in the Kirby Hills area on Sec. 30-4n-1e, Solano County, is drilling at 3287 ft.

Kirby Hills Test Redrills

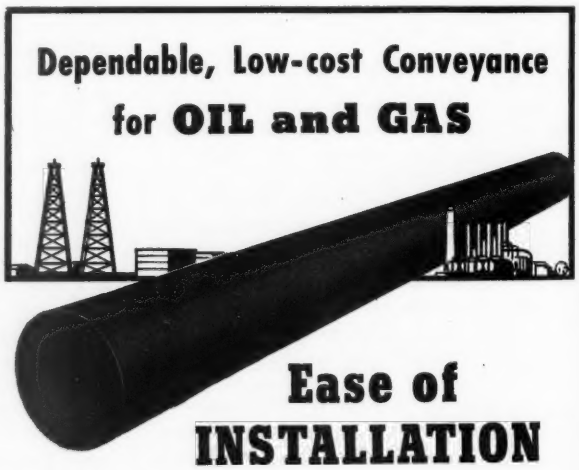
Standard of California is redrilling at 3340 ft. with its Kirby Comm. No. 5 gas test in Sec. 23-4n-1w in the Kirby Hills area of Solano County. Original depth is 3932 ft.

Arroyo Grande Well To Pump

With bottom at a depth of 1400 ft., Adams Oil Co. is preparing to pump its Adams No. 3 in the Arroyo Grande field in Sec. 31-31s-13e. Dollie No. 9 is a location in Sec. 6-32s-13e.

According to an announcement by S. W. Cunningham, president, the company's oil production in the field will be purchased by Shell Oil Co.

GOODALL ROTARY HOSE
with BARNEY COUPLING
BEST FOR DRILLING regardless of formations, depth or pump pressures; Goodall "Long Life" Rotary Hose is constructed of finest rubber and heavy duck plies reinforced with high tensile steel wire. It's a rugged, abrasive resistant hose that resists outward pressure and elongation.
BARNEY COUPLING—An integral part of the Goodall Rotary Hose eliminates clamps, stems, and metal from bore of hose, thereby removing cause of most rotary hose failures. Do away with high pressure leaks; order Goodall Rotary Hose with Barney Coupling
OTHER GOODALL PRODUCTS
All Types Industrial Rubber Goods plus Steam, Suction, Fuel, Discharge, Cement and Flue Cleaner Hoses.
GOODALL RUBBER CO.
LOS ANGELES • SEATTLE
• SALT LAKE CITY • SAN FRANCISCO


Dependable, Low-cost Conveyance
for OIL and GAS
Ease of
INSTALLATION
is one advantage of Calco Welded
Steel Pipe . . . Light weight and strong 40-ft. sections of Calco Welded Steel Pipe lend themselves to the economies of low transportation and handling costs, and quick, simple pipe-laying procedure. Long lengths mean fewer joints in the line and less assembly work, cutting installation costs to a minimum.
ARMCO
ARMCO DRAINAGE & METAL PRODUCTS, INC.
CALCO DIVISION, 2614 Seventh Street, Berkeley 2, Calif.
423 LeRoy Street, Los Angeles 12, Calif.

Present postings in the field are $1.56 a barrel for crude from 13 to 13.9 gravity and $1.58 for 14 to 14.9 gravity oil.

Zaca Try Drilling

Seeking a northwest extension of the Zaca area, Tide Water Associated Oil Co. last was reported making hole ahead at 2128 ft. with Luton No. 71 in Sec. 32-8n-31w, Santa Barbara County.

Oxnard Well Drills Ahead

In the Oxnard field, Parisinoil Co. is drilling at 3515 ft. in fractured volcanics with Todd No. 2 in Sec. 6-1n-21w. The Volcanics, topped at 3350 ft. are showing tar sand in the fractures. Bert Rovere, owner of the Paris Inn at Los Angeles, is an official of the drilling organization.

Lompoc Try Grading Site

About eight miles south of the Lompoc field in Santa Barbara County, Barnsdall Oil Co. and Honolulu Oil Corp. are grading ground for a joint effort known as Salispuedes No. 1 in Sec. 8-6n-33w. The project is on the Rancho Canada del Salispuedes and a short distance from where more than 10 years ago, Tide Water Associated Oil Co. explored without oil production success.

Yolo County Test Starts

Texas Co. has location staked for Dunnigan Unit No. 1-3 in Sec. 27-11n-1w in the Dunnigan Hills area in Yolo County.

Willows Try Fishing Pipe

A drill pipe fish has put a temporary halt to drilling in General Petroleum Corp.'s Llano Seco No. 1 in Sec. 33-30n-1w in the Willows area of Butte County. The hole is presently bottomed at 8306 ft., with top of drill pipe fish at 1699 ft.

Sespe Wildcat Running Pipe

Eagle Rock Petroleum Co. is making ready to run surface pipe in its Eagle Rock No. 1 test well in Sec. 36-5n-20w in the Sespe area, Ventura County. Present depth is 110 ft.

WAX -

FINE IN CANDLES
A HEADACHE IN OIL LINES

Nobs Wax Solvent will dissolve and remove the most persistent waxes and paraffines from wells lines and traps.

NOBS DEHYDRATING CORPORATION
2465 East 53rd Street, Los Angeles 11, California

Foxen Canyon Job Rigs Pump

Southeast of the Cat Canyon field, Foxen Ridge Oil Co. is rigging to pump from 4970 ft. its Winckenden No. 1 wildcat in Sec. 33-9n-32w in the Foxen Canyon area.

San Ardo Try Rigs

Derrick is being rigged for the combination wildcat effort of North American Consolidated Oil Co. and Jergins Oil Co. in the San Ardo area of Monterey County. The project is called Rosenberg No. 1 and is located in Sec. 34-22s-10e.

Goleta Project Plugging Uphole

Ohio Oil Co. is preparing to plug back and test uphole by intervals its Thomas B. Bishop Co. No. 1 wildcat in Sec. 7-4n-28w in the Goleta area of Santa Barbara County. Total depth is 3241 ft.

Sespe Try Drills On

In the Sespe Park area of Ventura County, Republic Operators, Inc., is making hole steadily ahead below 1300 ft., with Arundell No. 6-1 in Sec. 6-4n-19w.

Saticoy Test Rigging Up

Superior Oil Co. is rigging to start the drill in its Saticoy No. 1 in Sec. 10-2n-22w in the Saticoy area of Ventura County.

Simi Well Yields Oil

After redrilling to 1820 ft., Union Oil Co. has finished C.D.L.B. No. 4 in Sec. 32-3n-18w in the Simi area for 40 barrels of 17 gravity oil daily. Old bottom is 2867 ft. Location for No. 5 has been staked about 500 ft. south of the new producer. In the Gato Ridge area, the company is starting Giorgio No. 1 in Sec. 12-8n-32w, Santa Barbara County.

West Mountain Well Completed

D. D. Feldman, Operator, has given the finishing touches to Richardson Estate No. 4 at 4747 ft. for an output of 40 barrels of 20 gravity oil a day, cutting initially 25 per cent. No. 5 in the section is rigging up.

Nipomo Wildcat Ready To Start

Six miles northeast of the Santa Maria field, Union Oil Co. has staked location for Mary C. Phelan No. 1 in Sec. 32-12n-34w in the Nipomo area in San Luis Obispo County. Two previous test wells in the area failed to find commercial oil.

Casmalia Job Grades

Adams Oil Co. is grading drill site for Morganti No. 3 in Sec. 13-9n-35w in the Casmalia field, Santa Barbara County. Location is about 1200 ft. due south of Morganti No. 1.

Del Valle Well Tests

In the Del Valle area, Standard of California is continuing test with Boobier No. 1 in Sec. 15-4n-17w, Ventura County. The project went to 8855 ft., before plugging back to 8120 ft.

San Joaquin Valley

Poso Creek Test Staked

Westates Petroleum Corp. is preparing to drill Davidson No. 2 located 1750 ft. north and 600 ft. west of the southeast corner of Sec. 37-27s-27e in the Poso Creek area. Davidson No. 1 was recently abandoned at a total depth of 3098 feet. The latter topped Pyramid Hills at 2930 ft., Grit at 3030 ft., and gray Vedder at 3045 ft.

General Drilling Co., meantime, is coring at 1177 ft. in oil sand with Fitzhugh-USL No. 2 in Sec. 14 Top oil sand was placed at 1137 ft.

Kern River Try Listed

Elmer C. Von Glahn, widely known San Joaquin Valley oil man and agriculturalist, has staked location for No. 1 test well in Sec. 10-29s-28e in the Kern River area. It will be a basement test.

Cuyama Well Drills Ahead

Oil Well Abandonment Co. is drilling ahead at 4372 ft. with Cuyama No. 1 wildcat in Sec. 25-11n-28w in the Cuyama area of San Luis Obispo County. Electric log was run to 4006 ft. in the project, which apparently has scored some shows to present depth.

Cymric Adds Flowing Well

Flowing initially 684 barrels of 37.6 gravity oil and 492,000 cubic ft. of gas daily, Independent Exploration Co. has completed at 4923 ft. its Cymric No. 11 in Sec. 21-29s-21e in the Cymric area. Flow bean is 17/64-in. Cymric No. 21 is rigging up. Anderson No. 2 in Sec. 18 has been abandoned at 2000 ft. Carneros gray sand was topped at 1353 ft., with base at 1545 ft. Rothschild-Bender Oil Operations is ready to whipstock Anderson No. 4 in Sec. 20-29s-21e to new zone recently found in the sector.

Middle Dome Redrill Digs

Standard of California is redrilling at 9229 ft. with No. 73-30V in Sec. 30-23s-19e in the Middle Dome area of Kettleman Hills. Oil showings found so far correspond with those uncovered in the original hole. They will not be tested at this time. The company has spudded Mitchem No. 58-12 in Sec. 12-19s-13e in the Northeast Coalinga area.

Weedpatch Try Rigging Derrick

General Petroleum Corp. is rigging Kernsummer No. 27-22 in Sec. 22-30s-28e in the Weedpatch area of Kern County. Location falls north of an unsuccessful wildcat drilled years ago to nearly 7800 ft.

Glazier No. 32-2, three-quarters of a mile east of the Race Track Hill field in Sec. 2-30s-29e, is drilling ahead at 2534 ft. The area under questioning has hitherto been untouched by the inquiring punches of the drill.

Sand Hills Try Deeper

In the Sand Hills area off the east flank of the Paloma field, Western Gulf Oil is drilling on down at 14,327 ft. with S. P. No. 1 in Sec. 25-12n-20w. The try is aimed for production in an equivalent of the Paloma sand, which appears to be running deeper than presupposed originally.

Lost Hills Well Pumps

On the east fringe of the Lost Hills field, Superior Oil Co. has completed Bankline No. 3 in Sec. 19-26s-21e at 2310 ft., pumping 85 barrels of 18.2 gravity oil daily.

Miramonte Try Ends Oil Quest

Pacific Western Oil Corp. has abandoned its National Royalties No. 1 in Sec. 5-26s-22e in the Miramonte area, which in going originally to 16,668 ft. for a while was the deepest drilled hole in the world. Redrilled to 11,896 ft., the company was unable to go below 9486 ft., due to some trouble with whipstock. Casing is set at 16,406 ft.

Kings County Test Coring

C. C. M. O. Co.'s Orchard No. 1 wildcat test in Sec. 25-24s-17e in the McLure Valley area of Kings County is coring sandy siltstone at 1060 ft. Cal Valley Oil Co. is rigging to pump No. 13 in Sec. 17-24s-18e in the Pyramid Hills area. Original bottom is 1885 ft., with plug at 1200 ft. Guaranty Sales, Inc., Corehole No. 3 in Sec. 8 of the township is idle at 2875 ft.

Baroid Products

ANHYDROX • AQUAGEL • AQUAGEL CEMENT • BAROCO • BAROID FIBERTEX • IMPERMEX • JELFLAKE MICATEX • SMENTOX • STABILITE ZEOGEL • TESTING EQUIPMENT BAROID WELL LOGGING SERVICE

Baroid

SALES DIVISION

NATIONAL LEAD COMPANY

Los Angeles 12 • Tulsa 3 • Houston 2

Mountain View Active Center

Pacific Western Oil Corp. is plugging back to 5700 feet with Mott No. 3 in Sec. 9-31s-29e in the Mountain View area, preparatory to milling through casing and redrilling. Showings looked good, but swabbing recovered no more than a little fluid. L. S. Gilmour is running tubing to complete Buerkle No. 55 in Sec. 13-30s-28e, after gun perforating in the intervals of 4574-4598, 4650-4653, 4658-4662 and 4679-4689 ft. Apex Petroleum Corp and Century Oil Co.'s Cattani No. 4 in Sec. 15-31s-29e has been finished for a current yield of 930 barrels a day. Cattani No. 1, another new well, is flowing 720 barrels daily.

Arvin Area Yet Developing

Drilling has reached 6090 ft. in Schist in Di Giorgio No. 2 in Sec. 10-31s-29e in the Arvin wildcat area. On formation test of the interval of 5825-6015 ft., recovery was gassy drilling fluid and a trace of oil. Louis H. Didier's No. 1 in Sec. 10 is idle at 910 ft.

Temblor Well Making Progress

Signal Oil & Gas Co.'s Signal-Westates No. 88 in Sec. 35-29s-20e in the Temblor area is drilling steadily ahead below 2000 ft. The company's Signal-Honolulu-Carpenter No. 2 in Sec. 6-29s-19e in the McDonald Anticline area is grading ground.

Edison Test Swabbed Dry

United Exploration Co.'s No. 65-26 test well in Sec. 26-30s-29e in the Edison area is idle after swabbed dry, with fluid entry about six barrels a day. Total depth is 2915 ft. Union Oil Co. has plugged back Smith No. 63-28 in Sec. 28-30s-29e from 4309 ft. to 4100 ft. and is ready to gun perforate. Fred E. Stewart's Thomas No. 1 in Sec. 27-30s-30e is still idle at 605 ft. In Sec. 12-30s-29e, Caliente Oil Co. is making progress with the drill at 3869 ft. with Cohn Estate No. 1.

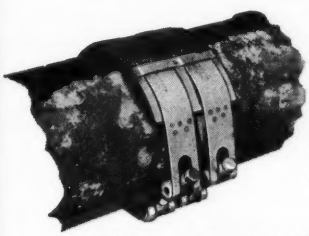
HERE'S THE

SOLUTION to PIPE LEAKS

New Marman Pipe Leak Clamps give you these features:

- √ Stainless steel for high strength, corrosion resistance, permanent repairs.
- √ Hycar pad resistant to deterioration by hot or cold water, gas, oil, etc.
- √ Can be used and re-used — outlast pipe.
- √ Easily and quickly installed by one person.
- √ Form naturally to pipe contour.
- √ Patch plate can be positioned for most advantageous installation.

HIGH PRESSURE TYPES

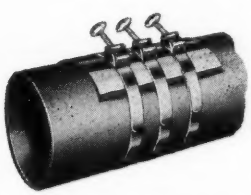


1100 P.S.I. Maximum

3 types for all pipe from 2 to 8 inches.

Largest size weighs only 6 pounds.

LOW PRESSURE TYPE

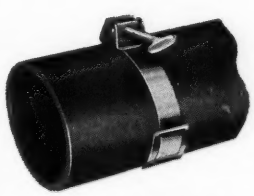


6 sizes fit all pipe from 1/2" to 12".

Adjustable to different pipe sizes.

Can be cut down to provide desired size or shape.

PATCHMASTER (all purpose)



800-1100 P.S.I. Maximum

4 sizes fit all pipe from 1/2" to 4".

Especially adaptable to pin-hole leaks.

For information write:

MARMAN PRODUCTS CO. INC.

940 W. REDONDO BOULEVARD
INGLEWOOD CALIFORNIA

California Oil World's Monthly Summary

DEVELOPMENT—PRODUCTION—SUPPLY & DEMAND
PACIFIC COAST TERRITORY

TABLE I—CALIFORNIA DEVELOPMENT—PRODUCTION

	MAY 1947, DEVELOPMENT				PRODUCTION	
	Active Drilling Wells	Oil Wells Completed	Initial Production B/D	Oil Wells Completed First 5 Months	Daily Average May 1947	Daily Average May 1946
SAN JOAQUIN VALLEY REGION						
Ant Hill	.....	.....	.....	1	1,579	1,284
Bellevue	.....	.....	.....	.....	285	396
Belridge—North	1	.....	.....	.....	6,294	5,672
Belridge—South	.....	2	37	20	8,213	10,935
Blackwell's Corner	.....	.....	.....	.....	180	183
Buena Vista Hills	.....	.....	.....	5	47,088	39,888
Canal	.....	.....	.....	.....	2,069	2,692
Coalinga Group						
Eastside	.....	2	206	5	15,447	17,367
Oil City	.....	.....	.....	.....	85	102
Coalinga—Nose	.....	.....	.....	.....	52,778	48,022
Coalinga—Northeast	2	.....	.....	1	8,416	8,258
Pleasant Valley	1	.....	.....	1	4,116	4,071
Jacalitos	2	2	81	10	4,644	4,680
Westside	.....	1	48	2	6,602	7,170
Coles Levee—North	2	3	145	4	16,761	15,160
Coles Levee—South	1	2	738	3	3,113	2,235
Edison	2	.....	.....	7	11,099	15,693
Elk Hills	6	1	42	6	7,717	7,784
Fruitvale	.....	.....	.....	.....	6,651	7,296
Greeley	.....	.....	.....	.....	9,949	10,688
Helm	.....	.....	.....	2	4,108	4,474
Kern Front	3	2	71	11	8,990	8,999
Kern River	3	5	96	16	9,863	10,330
Kettleman North Dome	4	2	247	8	37,721	37,614
Lanare	.....	1	77	2	2,255	2,283
Lost Hills	4	7	366	43	4,977	3,558
McKittrick Group						
Cymric	3	1	17	17	14,260	8,381
McKittrick	.....	1	51	2	2,831	3,011
McKittrick Front	1	3	86	7	1,598	1,474
Phacoides	.....	.....	.....	.....	.....	.....
Salt Creek	1	7	2,493	38	6,799	664
Sheep Springs	1	.....	.....	.....	357	493
Temblor Ranch	.....	.....	.....	1	155	12
Midway-Sunset	2	5	477	24	43,359	43,379
Mt. Poso Group	.....	3	123	5	14,412	16,615
Mountain View	3	1	131	7	6,421	3,210
Paloma	11	.....	.....	15	8,157	5,133
Poso Creek Group	.....	.....	.....	7	3,630	3,761
Pyramid Hills	1	.....	.....	.....	256	304
Race Track Hill	1	1	52	5	2,234	1,207
Raisin City	1	.....	.....	.....	2,745	2,654
Rio Bravo	.....	.....	.....	.....	11,807	13,559
Riverdale	1	.....	.....	1	4,650	4,387
Rosedale Ranch	.....	.....	.....	.....	103	101
Round Mountain Group	.....	.....	.....	5	8,855	9,503
Strand	.....	.....	.....	.....	1,433	1,833
Strand—East	.....	.....	.....	.....	504	598
Tejon Ranch	2	3	387	12	3,248	980
Ten Section	1	.....	.....	.....	8,180	9,026
Union Avenue	.....	.....	.....	.....	323	515
Wasco	.....	.....	.....	.....	204	785
Wheeler Ridge	.....	.....	.....	.....	224	231
Williams	.....	.....	.....	.....	1,422	1,603
Other Fields	3	1	85	10	819	220
TOTAL—San Joaquin Valley Region	63	56	6,056	303	429,986	410,473
COASTAL REGION						
Santa Maria District						
Casmalia	.....	.....	.....	.....	590	495
Cat Canyon—East	.....	.....	.....	.....	614	176
Cat Canyon—West	3	4	1,081	17	11,707	7,583
Gato Ridge	.....	.....	.....	.....	3,665	3,987
Lompoc	2	3	370	19	3,977	1,533
Orcutt	1	2	302	13	4,149	3,560
Santa Maria Valley	.....	3	190	18	27,700	33,742
Zaca Creek	1	.....	.....	.....	372	290

	MAY 1947, DEVELOPMENT				PRODUCTION	
	Active Drilling Wells	Oil Wells Completed	Initial Production B/D	Oil Wells Completed First 5 Months	Daily Average May 1947	Daily Average May 1946
COASTAL REGION—Continued						
Santa Barbara District						
Capitan	.....	.....	.....	.....	2,993	3,558
Elwood	3	.....	.....	3	7,282	6,467
Santa Barbara	.....	.....	.....	.....	102	96
Summerland	.....	.....	.....	.....	2	4
Ventura District						
Montalvo—West	1	.....	.....	1	140	.....
Padre Canyon	1	.....	.....	4	3,331	2,441
Rincon	.....	.....	.....	.....	3,669	4,623
San Miguelito	3	.....	.....	2	5,147	4,933
Ventura Avenue	8	5	1,217	20	46,740	46,049
North Santa Clara District						
Del Valle	3	4	363	11	8,498	6,164
Hopper Canyon	1	.....	.....	.....	138	216
Oak Canyon	1	.....	.....	.....	1,573	1,747
Sespe Canyon Group	.....	.....	.....	.....	212	277
Temescal	.....	.....	.....	.....	594	663
Others	.....	.....	.....	.....	237	230
South Santa Clara Valley District						
Aliso Canyon	.....	.....	.....	2	3,285	2,939
Bardsdale	.....	1	60	1	453	462
Newhall-Potrero	3	1	450	3	6,747	5,529
Oxnard	1	.....	.....	.....	1,288	1,023
Shiells Canyon	.....	.....	.....	3	1,150	1,272
South Mountain	3	1	310	5	4,976	3,363
Others	1	4	393	14	1,375	320
San Luis Obispo and Santa Clara Counties	2	1	11	3	122	47
TOTAL—Coastal Region	38	29	4,747	139	152,828	143,789
LOS ANGELES REGION						
Brea-Olinda	3	2	281	12	11,458	10,788
Coyote—East	2	.....	.....	6	4,810	4,756
Coyote—West	2	1	109	9	15,011	15,458
Dominguez	1	1	253	7	14,900	16,458
East Los Angeles	1	.....	.....	2	1,069	447
El Segundo	.....	.....	.....	.....	477	552
Huntington Beach	7	5	256	20	49,482	46,977
Inglewood	1	.....	.....	1	12,231	13,502
Long Beach	3	2	151	3	23,639	25,247
Montebello	.....	.....	.....	1	7,632	8,885
Newport	2	2	1,036	35	7,351	4,859
Playa Del Rey	.....	.....	.....	.....	2,119	2,440
Potrero	1	.....	.....	.....	810	1,058
Richfield	1	1	43	6	6,626	7,288
Rosecrans-Athens Group	1	.....	.....	.....	4,569	5,051
Santa Fe Springs	.....	.....	.....	.....	16,510	16,997
Seal Beach	3	2	868	7	11,679	9,959
Torrance	1	.....	.....	1	8,032	8,753
Whittier	2	.....	.....	.....	1,003	1,021
Wilmington	14	16	8,123	84	128,202	105,361
Yorba Linda	.....	.....	.....	.....	157	202
Other Fields	1	.....	.....	.....	1,795	907
TOTAL—Los Angeles Region	46	32	11,120	195	329,562	306,966
EXPLORATORY						
Outpost Wells	27	.....	.....	.....	.....	.....
Wildcats	17	.....	.....	.....	.....	.....
Gas Wells	3	3	Gas	22	.....	.....
TOTAL CALIFORNIA	194	120	21,923	824*	912,376	861,228

*—Includes gas wells completed and 165 drilling wells abandoned.

LAUGH THIS OFF!!

"Offisher," wailed the inebriated gentleman, "I'm looking for a parking place."

"But you've got no car."

"Oh, yesh, I have; it's in the parking place I'm looking for."

"I can't marry the Sergeant, mother; he's an atheist and he doesn't believe there is a hell."

"Marry him, my dear, and between us we'll convince him he's wrong."

Rastus and Eliza were out roller skating when Eliza suddenly fell. Immediately she flopped over and came to her feet again with remarkable agility. "Did you all see how quick ah recovered mah equilibrium?" she asked.

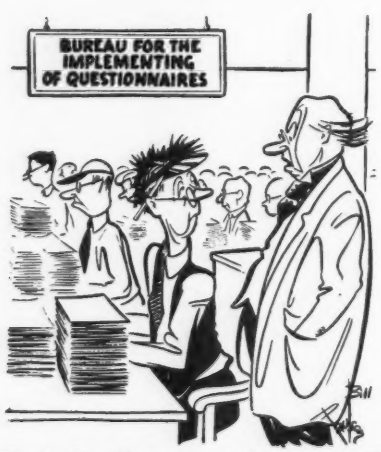
"Ah shore did," answered Rastus. "And almost afore I noticed it was uncovered."

The landlady brought in a plateful of extremely thin slices of bread, which rather dismayed her hungry men boarders.

"Did you cut these, Mrs. Brown?" asked one?

"Yes, I cut them," came the stern reply.

"All right," went on the boarder, "I'll deal."



"Dash off a 29 page questionnaire to all Oil Companies. We haven't pestered them in almost two weeks."

Madam: "Have you been touching the barometer, Mary?"

Mary: "Yes'm. It's my night out so I set it for fine."

Two Cockney lads were discussing their jobs. One was telling how he'd just been taken on as a porter at an East End Hotel, and that his employer had told him that he must treat the guests with tact.

"Tell me, Alf," he said, "do y'know wot this bloomin' tact is?"

"'Ere, now," Alf replied. "'Ere's wot tact is: I 'ad a blinkin' porter job m'self, at the Dorchester. And one fine day I was cleanin' up a bit and I 'appens to open a bathroom door and there, nice as you please, is the Duchess—in the tub.

"So, wot do I do? I close the door quick, and I 'oller, 'Beg pardon, your Lordship'!

"Now, that 'beg pardon' was politeness, but that 'your Lordship'—that was tact!"

A rich old aunt was paying her nephew's college expenses and her visitor asked her if it was expensive.

"Well," said the aunt, "some of the languages run pretty high. My check this month covered $10 for Chemistry, $20 for Latin, and $250 for Scotch."

A very large American woman, wearing a brilliant red dress and many diamonds, went to consult a celebrated dress designer. "Mr. Rudolpho," she said, "what colors should I wear?"

The connoisseur looked her over a brief moment and then replied, "My dear madame, when the Creator fashioned the hummingbird and the butterfly, He made them of brilliant colors; but when He created the elephant He made it taupe!"

It's just an idea—but if your neighbor keeps his radio going full blast until 2 a.m., give him a ring at 4 a.m. and tell him how much you enjoyed it.

The club members were bidding farewell to one who was leaving for India. In the conversation a friend said, "It gets pretty hot in India at times. Aren't you afraid the climate might disagree with your wife?"

The man looked at him reproachfully. "It wouldn't dare."

JENSENS make everything last L-O-N-G-E-R

That straight line, steady pull of a Jensen Pumping Unit does more than pump oil efficiently. Take polish rods —and stuffing boxes, packing and all the rest. Without side play and wobble, they last longer.

Producers everywhere benefit from this Jensen advantage thru savings in maintenance, less "down time" and greater overall profit.

Your Jensen dealer has more to add to this story. Make him give you all the details.

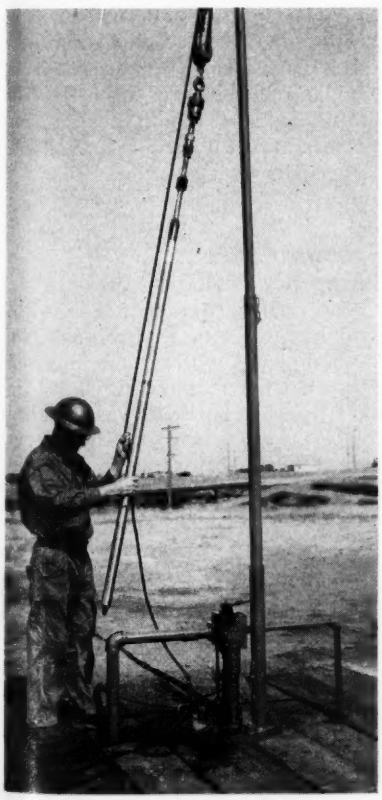
Stocked by
THE OIL TOOL CORPORATION
3075 Cherry Avenue, Long Beach, Cal.
Phone 481-81

JENSEN BROTHERS MFG. CO.
COFFEYVILLE, KANSAS, U.S.A.
EXPORT OFFICE, 50 Church St. New York City

New Pump Surfaces and Seats Hydraulically

An hydraulic pump that eliminates pump pulling and, according to the manufacturer, will reduce pumping operating costs 25%, is announced by Kobe, Inc. The new pump can be circulated to the surface and reseated by the turn of a valve at the wellhead. It is called a "Free Pump," to differentiate it from fixed type pumps, which are lowered in the well at the end of tubing or rods.

In performance it is identical with the conventional Kobe hydraulic pump, which is a fixed type pump. Power oil directed down the power tubing, in which the pump seats, actuates the double acting reciprocating engine in the engine end of the unit, which in turn actuates the pump in the pump end. A packer nose assembly, equipped with cup and wafer type rubber packers, to provide a lifting area to raise and lower the pump in the hole, hydraulically, marks the major difference between the conventional Kobe pump and the Free Pump.



The Free Pump is made in two sizes, 2" and 2½". It operates in three different systems: **Parallel,** consisting of a string of 2" or 2½" EU power tubing and 1" or 1¼" NU production tubing; **concentric,** consisting of power tubing set inside production tubing; **casing type,** consisting of power tubing anchored in a bottomhole packer inside the casing.

To surface the Free Pump, power oil is directed down the production tubing and underneath the pump and up the power tubing. To seat it, the pressure is directed down the power tubing.

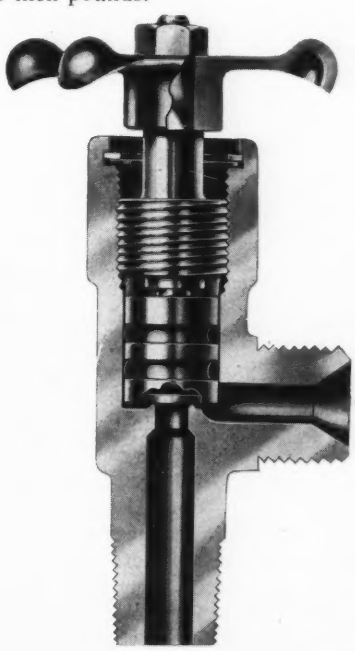
A 4-way valve, installed at the wellhead, controls the surfacing, seating and shut-off and bleeding operations. Turned to "pump out," the valve reverses the power oil flow down the production tubing and up the power tubing. Turned to "shut-off and bleed," after the pump surfaces, the valve bleeds the pressure off both the power and production tubings. Turned to "pump in," the valve directs the flow of power oil down the power tubing to seat and operate the pump.

Safe New Valve for High-Pressure Gases

The SE-CO packless stem valve, an entirely new design announced by the Security Valve Co., 410 San Fernando Road, Los Angeles 31, will not freeze in either open or closed position. It is impossible to disassemble this valve by turning the spindle past the open position. The combination of these two outstanding safety features eliminates the hazardous possibility of an individual accidently backing the spindle out of a valve in service on a cylinder or line containing gas at high pressure. The SE-CO valve is listed by the Underwriter's Laboratories, Inc.

A brass retaining washer, held in place by a Waldes snap ring, positively stops upward motion of the spindle at the wide-open position. Since the retaining washer is free to rotate there is no possibility of the spindle becoming wedged in the open position. In the closed position, downward motion of the spindle is halted both by the valve's Neoprene seat and a metal-to-metal contact. Again, no freezing is possible, owing to the inherent resiliency of Neoprene. In the SE-CO valve gas pressure is ingeniously utilized to increase seal effectiveness. Increasing pressure against the exposed portion of the Neoprene seat is translated into increasingly firm contact at the actual sealing points.

Equipped with Neoprene "O" rings, as well as a Neoprene seat, the SE-CO valve also has a heavy-duty forged brass body and a full-grip hand wheel. Weight is 1.35 pounds; height is 4½" open, 4¼" closed. Approved operating pressures are 1 oz. to 3500 psi; operating temperatures are 70° to 250°F; maximum open and close torque is 35-inch pounds.



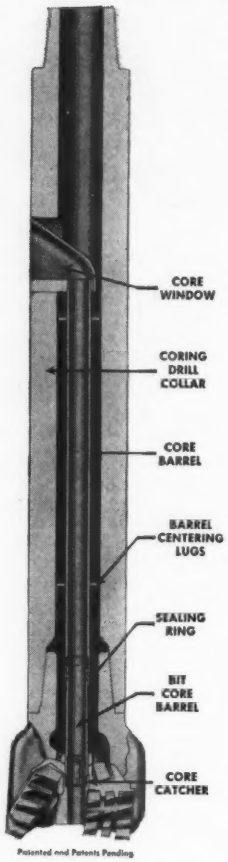
New Security Coring Bit Obtains Bottom Hole Core Sample With Every Bit Run

An entirely new type of Coring Bit has been developed by Security Engineering Co., Inc., Whittier, California, which produces a core sample with every bit run. Unlike most conventional core bits or coring equipment, it can be run continuously in place of regular rock bits and does not require auxiliary equipment to be run, nor is time lost when taking a core. In fact, Security Coring Bits produce the same total footage at the same drilling speeds and rate of penetration as regular rock bits. When drilling, the Coring Bit is ordinarily run until dulled at which time a core sample of the last three feet of hole made is retained in the core barrel and is available for inspection when the bit is brought to the surface. It is unnecessary, however, to completely dull the bit before obtaining a core, since the bit can be pulled any time a core sample is desired. For example, a sudden change in the rate of penetration of the bit may indicate a formation from which a core is desired. After drilling into this unknown zone for a few feet, the bit can be pulled and a core recovered for identification of the formation. This is possible because this Coring Bit is continuously cutting a core which passes through and out of the core barrel.

This new bit gives the geologists an actual core sample of the last three feet of formation penetrated by the bit or a core sample at any time during the drilling operations and does not retard drilling speeds or require extra trips with special tools.

The Security Coring Bit assembly consists essentially of two main items; the Coring Bit and the Coring Drill Collar. Each of these items is a self-contained unit without loose or protruding parts and they are easily assembled in the same way as a rock bit is made up to a drill collar.

The Security Coring Bit is a modified Security Rock Bit with the same large bearings, heavy construction and tooth patterns. The bit contains a fixed, short core barrel which extends from the core opening in the bridge to the end of the tool joint pin on the bit. This short core barrel contains a spring type floating core catcher which is retained within the barrel and is not a loose part of the assembly.



Patented and Patents Pending

The Coring Drill Collar has an outside diameter and bore the same as the standard tool joint connections for the bit size. It is produced with a tool joint pin up and box down and is generally furnished 52 inches long from shoulder to shoulder. This drill collar retains the Core Barrel which is centrally located within the bore and is threaded into the Core Breaker Cage located near the top of the drill collar. The Core Breaker Cage is a fixed part of the drill collar and is sealed off from the downward mud stream within the collar. This core breaker cage forms a lateral opening or core window between the core barrel and the space between the drill collar and the walls of the hole. The lower end of the core barrel has a socket connection which slips over the short, fixed section of core barrel located in the bit. This forms a continuous core tube when the bit is made up to the drill collar.

In operation, as drilling progresses, the core enters the core barrel until it reaches the core breaker cage. Here, the top part of the core is broken into particles; deflected through the core window and into the return circulation stream where it is circulated out of the hole. This is a continuous operation and the constant deflection of the top portion of the core, allows the bit to make any amount of footage. When the bit is pulled, a core sample of the last three feet of formation drilled is retained in the core barrel.

Accessory equipment to assist in ejecting cores from the barrel and analyzing the samples is available in a special fitted box. Included in the accessory kit are one extra core barrel, a core barrel wrench for removing the barrel from the drill collar and an extractor set consisting of a core pusher and pump connection. In addition, there are 12 core trays with identification cards, sample bottles and a supply of carbon tetrachloride with which cores can be analyzed for oil content.

Security Coring Bits are made in popular rock bit sizes from 7⅝" to 12¼", and with tooth designs for all formations. They are available at Security branch offices.

Springs Adds Pumping Well

Oscar Howard, one of the first to drill in the Santa Fe Springs field, has completed another pumping well there. It is Hathaway No. 3 in Sec. 6-3s-11w, which was finished for 89 barrels a day, cutting 20 per cent. It is bottomed at 4692 ft. Jalk No. 120 in the section is drilling at 1736 ft. Union Oil Co.'s Bell No. 72 in Sec. 31-2s-11w is making hole below 7050 ft.

Val Verde Try Grades

Ground is being graded for Texas Co.'s Malis No. 1 in the Val Verde area in Sec. 10-4n-17w, Los Angeles County.

Axelson Expands Sales and Service Facilities in South America

J. C. Axelson, president and general manager of the Axelson Manufacturing Co., well known manufacturers of sub-surface oil production equipment and heavy duty engine lathes, announces the completion of negotiations for an extensive sales and service organization in Venezuela and Colombia.

Directly representing Axelson in sales and service, Mr. M. Ray Conger will be located at Caracas, Venezuela. Conger has been with the Axelson Pump sales and service division since 1929. His wide knowledge and experience gained these past years gives him a thorough understanding of every sub-surface oil production condition in all parts of the United States. This qualifies him to render invaluable assistance to Axelson customers in crude petroleum production problems.

For many years past Axelson has been represented by C. C. McDermond at Maracaibo, Venezuela. Mac, as he is familiarly known, has through his ardent efforts and personal integrity established himself as a leading figure in the petroleum industry of Venezuela, Colombia and Mexico.

Mr. McDermond's efforts are ably supported by Mr. John McNeill whose wide experience in production activities in California will be available from Maracaibo headquarters.

C. A. Industries, Waldrip y Campbell, recently formed by William S. Waldrip of Waldrip Engineering Company, Los Angeles, California, and W. J. Campbell, president of Petroleum Machinery Corporation, New York City, have established headquarters at Caracas, Venezuela.

The Waldrip-Campbell organization with headquarters in Barcelona, Venezuela will stock, sell and service the complete line of Axelson pumps and sucker rods in Venezuela and Colombia. In addition they will distribute and service Axelson Heavy Duty Engine Lathes and Axelson Hollow Spindle Oil Company Lathes.

In the Walcan organization is C. T. McCoy, popularly described as a "bottom hole pump man," who worked in the Axelson sales organization and in the Axelson factory in Los Angeles for 22 years. The C. A. Industries Waldrip y Campbell, has already made plans for machine shops of considerable size equipped to handle the wide variety of jobs demanded by the oil industry.

These shops coupled with a complete stock of all Axelson pumps, pump parts and sucker rods will answer a number of the problems confronted by producers operating in those areas.

This representation by men experienced in oil production and machine shop and repair facilities has been established with the thought of giving the same efficient service and assistance as is extended by the many Axelson sales representatives stationed throughout principal domestic oilfields.

Howard Opens Ventura Store

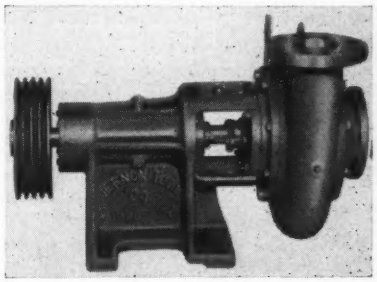
A crowd of approximately 350 oil and gas men attended the recent opening of Howard Supply Company's new store at Ventura. The store is of novel design—is all steel and portable. The building is 40 ft. x 100 ft. in size and replaces the building recently destroyed by fire which was caused by a break in the gas transmission main.

Features of the new store are: truck heighth cement floor made possible by excavating ground from a sloping terrain. The building is equipped with a six-foot door so that heavy loads can be lifted on and off of trucks. The cement porch which runs the width of the building can be used for storing or displacing heavy oil field equipment.

Many novel features—such as tool racks, etc. are incorporated in the frame work of the new building. This is made possible by its unique design. The interior is completely covered by aluminum paint. Location is on Ventura Boulevard just south of Shell Company's general field offices.

Vernon Introduces New Pump

Vernon Tool Co., Ltd., announces a new centrifugal pump built specifically for handling rotary drilling mud and other particularly abrasive fluids. This pump incorporates numerous features designed to withstand wear caused by sand, rocks, shale and other solids commonly present in oil field operations.



The Vernon Centrifugal Pump was originally intended solely for use with the Vernon-Corwin Rotary Mud Desander. Its outstanding performance, however, has disclosed other oil field applications including mud transferal and mud loading, sump and pit cleanout work, and as a booster pump for the regular rig mud pumps.

This Vernon pump is a heavy-duty, slow speed centrifugal and is adaptable to either V-belt or direct drive. For operating characteristics and complete details write Vernon Tool Co., Ltd., 1101 Meridian Avenue, Alhambra, California.

Temblor Test Coring Ahead

Cal Oil and Gas Co. is coring ahead at 1720 ft. with Calumet-Cal No. 1 in Sec. 30-29s-21e in the Temblor area. Miller and York has location staked for FOB No. 1 in Sec. 31-29s-21e.

Rig Up For Las Llajas Try

Rig is up for Tide Water Associated Oil Co.'s Joughin No. 1, a wildcat test in Sec. 25-3n-17w in the Las Llajas area of Los Angeles County.

Wilson Bros.

PAINT ENGINEERS
CONTRACTORS

WHITTIER 43-275

New Baash-Ross Power Swivel Simplifies Light Rotating Operations

The Baash Ross Tool Company has recently announced development of a fluid-driven Power Swivel that permits light rotating jobs to be carried out on a rig without need for installing kelly rotary table or other heavy equipment. Typical applications include internal cutting and fishing jobs drilling out sand or cement bridges, scraping liners, drilling out cement in tubing and many other similar operations where sensitive control is essential and only limited torque is required.

Basically, the Baash-Ross Power Swivel consists of three units—the Swivel itself, the Control Unit, and the Power Unit. The Power Unit consists of a compact gasoline engine which drives a fluid pump, thus generating hydraulic pressure which is circulated to the Swivel by means of flexible hose connections. The Control Unit can be mounted wherever convenient and permits instant starting, stopping and reversing the direction of rotation of the Swivel. A pressure gauge incorporated in the Control Unit gives accurate and direct indication of the amount of torque being developed in the rotating string so that complete control is maintained at all times.

The Swivel Unit can be suspended in the derrick with regular tubing elevators, and torque arms extend radially for anchoring the non-rotating portion of the Swivel to the derrick legs so that torque can be developed without twisting the supporting lines. The Swivel and fluid-drive unit are integrally combined into one compact housing and the lower end of the Swivel connects directly to the run-in string. No kelly or rotary table is needed. The Power Swivel is designed to deliver maximum efficiency at a speed of approximately 17 r.p.m.—the ideal speed for operating fishing tools as well as for other light rotating operations.

The Swivel has a capacity of 80,000 pounds tensile loading and develops a torque of 12,675 inch-lbs. The 4-cycle gasoline engine develops approximately 9.2 horse power at 2200 r.p.m. and the magneto, sparkplugs and wiring are all spark-proof, while the exhaust is protected with a spark arrester for maximum safety where explosive conditions exist. The pump is equipped with a safety valve for 1000 p.s.i. maximum operating pressure.

The entire assembly — Swivel, Control Unit, Power Plant, and connecting equipment—is so compact that it can be readily transported in a small pick-up truck. If desired, the Power Plant can be left right on the truck for quick jobs—or can be set to off at any convenient place on or near the rig.

Important Advantages

The Baash-Ross Power Swivel offers many important operating advantages for rotating the run-in string on internal cutting jobs. Its uniform, sensitive hydraulic drive is far more efficient than manual rotation, eliminating irregularities and uneven feed. It is also safer because rotation can be instantly stopped and reversed to relieve any excess torque. Another valuable feature is that there is no need for workmen to be near the stretched pipe while it is being cut, thus safeguarding them against accidents. In addition, since the Power Swivel can be operated at any height in the rig there is no need for the crew to work on make-shift platforms—nor is there need for cutting off the run-in string near floor level to be at convenient working height.

Moreover, since the Power Swivel requires no rotary table, no drawworks or other heavy equipment that is both complicated and costly to install, the unit is ideal for drilling out cement plugs and sand bridges, for scraping paraffin, drilling out cement in tubing, cleaning liners and for many other light rotating jobs.

Full details on the Baash-Ross Power Swivel can be obtained by writing Baash-Ross Tool Works, 5512 South Boyle Avenue, Los Angeles 11, California.

SMITH - EMERY CO.
Since 1904
Oils Tested
Shipments Certified
Tanks Strapped
Offices and Laboratories
920 Santee St. Los Angeles
651 Howard St. San Francisco

Cavins Wire Line Jars

Standard drilling ends, as part of the permanent oil well surface equipment, are fast becoming obsolete and the nature of production hoists and their operation makes it impossible to get the same performance from rein jars that could be obtained with walking-beam action. To attempt this with a hoist is not only uncertain, but it is an arduous task and hard on equipment.

The new Cavins Wire Line Jars make it possible to deliver a sharp jarring action to stuck tools when a limited amount of direct pull is put on the sand line. The tool is reset for repeated jarring merely by slacking off on the line. They are for use with Bailers, Sand Pumps, Swabs, or Wire Line Fishing Tools.

The assembly consists of a one-piece Jar Mandrel and Jar Head mounted in a tubular body with the Jar Mandrel sliding through a Lifting Head at the top of the tube. Below the Jar Head a cluster of spring Fingers is mounted. On the downward travel of the Jar Mandrel these spring Fingers collapse inwardly easily to pass through a Jar Ring mounted on the inside of the tube. The angle on the top shoulder of the spring Fingers and the underneath side of the Jar Ring is such that a considerable pull is required to collapse the spring Fingers to permit upward movement of the Jar Mandrel. When the Jar is in its set position it will remain that way until the tools below the Jars become stuck. The Finger cluster resists upward movement of the Jar Mandrel until from 5 to 7 feet of stretch have been put in the sand line. The load on the Fingers is then sufficient to cause them to bend inwardly and allow for passage through the Jar Ring. The sand line being under tension is free to contract thereby developing a sharp jarring action. The effective blow delivered is of course influenced by the amount of Sinker Bar, or Stem, which is run above the Jars. This can be varied from a weight of 50 lbs. on the smallest size to 300 lbs. for the largest size Jar.

These Jars are made in 1½" O.D. size for measuring line (piano wire) use; 1¾" O.D., 2" O.D., 2½" O.D, 3" O.D., and 3½" O.D. for sand line or drilling line use. They can be adjusted to release and jar from as little as 100 lb. pull in the smallest sizes to 3500 lbs. maximum pull for the largest size. The standard stroke is 10". When inquiring, or ordering, be sure to specify the size and type of pin and box connections wanted.

The Martin-Decker Hydro-Mech Torque Gauge

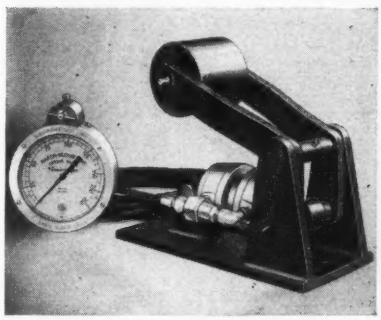
The Hydro-Mech Assembly consists of a pressure unit gauge for installation at the Driller's position and connecting high-pressure flexible hose.

A lever arm carrying a steel idler wheel supported by an "O" ring packed piston and cylinder forms the chain idler assembly.

The chain idler assembly is installed under the tight side of the rotary chain, where by pumping more or less fluid into the cylinder, the idler roller is raised or lowered to deflect the chain (in the same manner that the Martin-Decker Weight Indicator diaphragm deflects the dead line.)

The tendency for the chain to straighten under load exerts force against the roller which is supported through the lever by the fluid into the cylinder.

Pressure developed within the cylinder varies according to the force exerted on the roller by the deflected chain. Pressure variations are transmitted through the high-pressure hose to the gauge located in the drilling control panel at the driller's position.



The idler roller runs on two tapered grease packed bearings. Grease is retained by grease retainers which keeps grease in and mud and abrasive material out. Grease fitting is provided.

The hose is connected to the Hydro-Mech Pressure assembly by means of a Martin-Decker developed self-sealing coupling which automatically seals fluid in the cylinder and hose when disconnected. Therefore, no filling or pumping is required when installed or dismantled.

When the idler assembly is to be moved the self-sealing coupling is disconnected, the hose carried in the panel box. When re-installed, the self-sealing coupling is connected and pressure contact, without loss of fluid, is re-established.

Recorder for the Hydro-Mech Torque Gauge is optional.

Torque readings by the Hydro-Mech Torque Gauge are more direct than through manifold pressure changes and are thus more sensitive.

The Hydro-Mech fills the torque gauge need for diesel powered rigs.

Desert Test Standing Idle

With hole bottomed at 3798 ft., Willette Oil Co.'s Virginia Lee No. 1 in Sec. 20-5n-9w in the Palmdale area of Antelope Valley is standing idle.

ARE YOU STILL AN ACTIVE PARTNER . . .

in this "7½ billion-a-year" success?

NEVER was there a partnership like the nation-wide brotherhood of volunteers who have helped sell, advertise, and promote sales of U. S. Savings Bonds! Their program is the greatest sales operation at the lowest cost in history.

Your continued support in promoting the Payroll Savings Plan will help "America's partnership" this year to repeat or surpass last year's four-star performance, in which sales of Savings Bonds were 7½ billion dollars—*exceeding redemptions by far more than a billion!*

So keep up the splendid work—keep on telling and selling your employees the advantages of Payroll Savings: (1) ease; (2) regularity; (3) safety of investment; (4) security for the individual and the nation; (5) $4 for every $3 at maturity! And, remember, people with a stake in the future are the most stable, most productive employees.

For any help you need in conducting the Plan, call on your State Director of the Treasury Department's Savings Bonds Division.

New Savings Bonds Plan won't affect the P.S.P.

THE Treasury Department and the banks of America are making it possible for farmers, doctors, and other self-employed people to participate in "automatic" Bond buying by special arrangement with their banks. This extension of the Savings Bonds program is not a partial payment plan and is intended *only* for people who are not in a position to take advantage of the Payroll Savings Plan.

The Treasury Department acknowledges with appreciation the publication of this message by

CALIFORNIA OIL WORLD

This is an official U. S. Treasury advertisement prepared under the auspices of the Treasury Department and The Advertising Council.